

## SEQUENCE LISTING

<110> Rommens, Johanna

Fraser, Paul

<120> GENETIC SEQUENCES AND PROTEINS RELATED TO ALZHEIMER'S DISEASE

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<140> US 09/689,159

<141> 2000-10-12

<150> US 08/509,359

<151> 1995-07-31

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<170> PatentIn version 3.0

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Page 1

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Gln Asp Glu Glu Asp Glu Glu Leu Thr Leu Lys Tyr Gly Ala Lys Page 3

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| Ser                          | Glu           | Glu         | Trp<br>340               | Glu        | Ala        | Gln        | Arg        | Asp<br>345 | Ser          | His        | Leu        | Gly        | Pro<br>350 | His        | Arg        |     |
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| Leu                          | Ala<br>370    | Gly         | Glu                      | Asp        | Pro        | Glu<br>375 | Glu        | Arg        | Gly          | Val        | Lys<br>380 | Leu        | Gly        | Leu        | Gly        |     |
| Asp<br>385                   | Phe           | Ile         | Phe                      | Tyr        | Ser<br>390 | Val        | Leu        | Val        | Gly          | Lys<br>395 | Ala        | Ser        | Ala        | Thr        | Ala<br>400 |     |
| Ser                          | Gly           | Asp         | Trp                      | Asn<br>405 | Thr        | Thr        | Ile        | Ala        | Cys<br>410   | Phe        | Val        | Ala        | Ile        | Leu<br>415 | Ile        |     |
| Gly                          | Leu           | Cys         | Leu<br>420               | Thr        | Leu        | Leu        | Leu        | Leu<br>425 | Ala          | Ile        | Phe        | Lys        | Lys<br>430 | Ala        | Leu        |     |
| Pro                          | Ala           | Leu<br>435  | Pro                      | Ile        | Ser        | Ile        | Thr<br>440 | Phe        | Gly          | Leu        | Val        | Phe<br>445 | Tyr        | Phe        | Ala        |     |
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| Phe<br>465                   | Tyr           | Ile         |                          |            |            |            |            |            |              |            |            |            |            |            |            |     |
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|                              | )> 3<br>anaca |             | ggcag                    | gctga      | ag go      | eggaa      | aacct      | z ag       | gctg         | cgag       | ccg        | gccg       | ccc (      | gggc       | gcggag     | 60  |
| agag                         | gaago         | gaa d       | ccaad                    | cacaa      | ag ac      | cagca      | agcco      | c tto      | cgag         | gtct       | tta        | ggca       | gct 1      | tggag      | ggagaa     | 120 |
| caca                         | atgag         | gag a       | aaaga                    | aatco      | cc aa      | agago      | gttt       | gti        | tttc         | tttg       | agaa       | aggta      | att 1      | tctg       | tccagc     | 180 |
| tgct                         | ccaa          | atg a       | acaga                    | agata      | ac ct      | gcad       | cctt       | gt         | ccta         | cttc       | cag        | aatg       | ccc a      | agat       | gtctga     | 240 |
| ggad                         | cagco         | cac t       | ccag                     | gcago      | cg co      | catco      | cggag      |            | agaa<br>'age |            | agc        | caag       | aac 🤉      | ggca       | gcagca     | 300 |

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1860

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1929

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415 405 410 Gly Leu Cys Leu Xaa Leu Leu Leu Ala Ile Tyr Lys Lys Gly Xaa 420 430 Pro Ala Xaa Pro Ile Ser Ile Thr Phe Gly Phe Val Phe Xaa Phe Ala 435 440 445 Thr Asp Tyr Leu Val Gln Pro Phe Met Asp Gln Leu Ala Phe His Gln 450 455 460 Phe Tyr Ile 465 <210> 5 3087 -<211> <212> DNA <213> Homo sapiens <220> misc feature <221> <222> (1)..(3087) where n may be either a or g or c or t/u, unknown or other <223> <400> 60 qaatteqqea eqaqqqaaat qetqtttqet eqaaqaeqte teaqqqeqea qqtgeettgq qccqqqatta qtaqccqtct qaactqqaqt qqaqtaqqaq aaaqaqqaaq cqtcttqqqc 120 tgggtctgct tgagcaactg gtgaaactcc gcgcctcacg ccccgggtgt gtccttgtcc 180 240 aggggcqacq agcattctqq qcqaaqtccq cacscctctt qttcqaqqcq qaagacgggg 300 totgatsett teteettagt egggmetate tegaggeatg eatqtecagt gaetettata tttgctqctq cttccctctc agattcttct caccqttqtq qtcaqctctq ctttaggcan 360 tattaatcca tagtggaggc tgggatgggt gagagaattg aggtgacttt tccataattc 420

Page 9

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<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;220>

<sup>&</sup>lt;221> misc feature

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       where n may be either a or g or c or t/u, unknown or other
<223>
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                                                                       60
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                                                                      120
                                                                      180
gagaatgeee ceneacagea tagagaagee eeegeacage atagagaatg etetteacet
                                                                      240
ctgggttttt aaccaqccaa actaaaatca caqaqqscma cacatcattt aaqataqaaa
tttctqtatc ttttaattty tttcmaaqta qttttactta ttttcaqatt ctatttcttt
                                                                      300
actagaatta agggataaaa taacaatgtg tgcataatga accctatgaa acmaacmmaa
                                                                      360
gctaggtttt tttcatagst cttcttccaq attgaatgaa cqtctgttct aaaatttaac
                                                                      420
cccccaggga aatattcagt taactatgtt aaaaacccag acttqtgatt gagttttgcc
                                                                      480
tgaaaatgct ttcataatta tgtgtgaatg tgtgtc
                                                                      516
<210>
       1726
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<212>
       DNA
<213>
      Homo sapiens
<220>
<221>
      misc feature
<222>
       (1)...(1726)
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where n may be either a or g or c or t/u, unknown or other

<223>

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cctgtcatcc ccctcctctt ggtgttatat ataaagtntt ggtgccgcaa aagaagtagc
                                                                  1500
actcgaatat aaaattttcc ttttaattct cagcaaggna agttacttct atatagaagg
                                                                  1560
gtgcaccent acagatggaa caatggcaag cgcacatttg ggacaaggga ggggaaaggg
                                                                  1620
ttettatece tgacacacgt ggteeenget gntgtgtnet nececeactg antagggtta
                                                                  1680
gactggacag gcttaaacta attccaattg gntaatttaa agagaatnat ggggtgaatg
ctttgggagg agtcaaggaa gagnaggtag naggtaactt gaatga
                                                                  1726
       10
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<211>
       1883
<212>
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<213>
      Homo sapiens
<220>
<221>
      misc feature
<222>
       (1)...(1883)
<223>
      where n may be either a or g or c or t/u, unknown or other
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                                                                    60
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                                                                   120
cccnnggtgt aataccaagt attcnccaat ttgtgataaa ctttcattgg aaagtgacca
                                                                   180
ccctccttgg ttaatacatt gtctgtgcct gctttcacac tacagtagca cagttgagtg
                                                                   240
tttgccctgg agaccatatg acccatagag cttaaaatat tcagtctggc tttttacaga
                                                                   300
gatgtttctg actttgttaa tagaaaatca acccaactgg tttaaataat gcacatactt
                                                                   360
tctctctcat agagtagtgc agaggtagnc agtccagatt agtasggtgg cttcacgttc
                                                                   420
atccaaggac tcaatctcct tctttcttct ttagcttcta acctctagct tacttcaggg
                                                                   480
tccaggctgg agccctascc ttcatttctg acagtaggaa ggagtagggg agaaaagaac
                                                                   540
600
agtcattgcc cttacttgtt ctcatagcca tcctaaatat aagggagtca gaagtaaagt
                                                                   660
ctkkntggct gggaatattg gcacctggaa taaaaatgtt tttctgtgaa tgagaaacaa
```

1440

720

ggggaagatg gatatgtgac attatcttaa gacaactcca gttgcaatta ctctgcagat

```
780
gagaggcact aattataagc catattacct ttcttctgac aaccacttgt cagcccncgt
                                                                      840
ggtttctgtg gcagaatctg gttcyatamc aagttcctaa taanctgtas ccnaaaaaat
                                                                      900
ttgatgaggt attataatta tttcaatata aagcacccac tagatggagc cagtgtctgc
                                                                      960
ttcacatgtt aagtccttct ttccatatgt tagacatttt ctttgaagca attttagagt
                                                                     1020
gtagctgttt ttctcaggtt aaaaattctt agctaggatt ggtgagttgg ggaaaagtga
cttataagat ncgaattgaa ttaagaaaaa gaaaattctg tgttggaggt ggtaatgtgg
                                                                     1080
ktggtgatct ycattaacac tganctaggg ctttkgkgtt tgktttattg tagaatctat
                                                                     1140
                                                                     1200
accccattca nagaagatac cgagactgtg ggccagagag ccctgcactc aattctgaat
                                                                     1260
gctgccatca tgatcagngt cattgtwgtc atgactannc tcctggtggt tcwgtataaa
                                                                     1320
tacaggtgct ataaggtgag catgagacac agatetttgn tttccaecet gttettetta
tggttgggta ttcttgtcac agtaacttaa ctgatctagg aaagaaaaaa tgttttgtct
                                                                     1380
                                                                     1440
tctagagata agttaatttt tagttttctt cctcctcact gtggaacatt caaaaaatac
aaaaaggaag ccaggtgcat gtgtaatgcc aggctcagag gctgaggcag gaggatcgct
                                                                     1500
                                                                     1560
tgggcccagg agttcacaag cagcttgggc aacgtagcaa gaccctgcct ctattaaaga
                                                                     1620
aaacaaaaaa caaatattgg aagtatttta tatgcatgga atctatatgt catgaaaaaa
ttagtgtaaa atatatat tatgattagn tatcaagatt tagtgataat ttatgttatt
                                                                     1680
                                                                     1740
ttgggatttc aatgcctttt taggccattg tctcaamaaa taaaagcaga aaacaaaaaa
                                                                     1800
agttgtaact gaaaaataaa catttccata taatagcaca atctaagtgg gtttttgntt
gtttgtttgn ttgttgaagc agggccttgc cctnycaccc aggntggagt gaagtgcagt
                                                                     1860
                                                                     1883
ggcacgattt tggctcactg cag
```

<sup>&</sup>lt;210> 11 <211> 823 .<212> DNA

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;220>

<sup>&</sup>lt;221> misc\_feature

<sup>&</sup>lt;222> (1)..(823)

| <400> 11   |            |            |            |            |            |     |
|------------|------------|------------|------------|------------|------------|-----|
|            | ctaggtaaat | gnaagntgtt | ttaaagagag | atgnggncng | ggacatagtg | 60  |
| gtacacanct | gtaatgctca | ncactkatgg | ggagtactga | aggnggnsgg | atcacttgng | 120 |
| ggtcnggaat | ntgagancag | cctgggcaan | atggcgaaac | cctgtctcta | ctaaaaatag | 180 |
| ccanaawnwa | gcctagcgtg | gtggcgcrca | cgcgtggttc | cacctactca | ggaggcntaa | 240 |
| gcacgagnan | tncttgaacc | caggaggcag | aggntgtggt | garctgagat | cgtgccactg | 300 |
| cactccagtc | tgggcgacma | agtgagaccc | tgtctccnnn | aagaaaaaaa | aaatctgtac | 360 |
| tttttaaggg | ttgtgggacc | tgttaattat | attgaaatgc | ttctyttcta | ggtcatccat | 420 |
| gcctggctta | ttatatcatc | tctattgttg | ctgctctttt | ttacattcat | ttacttgggg | 480 |
| taagttgtga | aatttggggt | ctgtctttca | gaattaacta | cctnngtgct | gtgtagctat | 540 |
| catttaaagc | catgtacttt | gntgatgaat | tactctgaag | ttttaattgt | ntccacatat | 600 |
| aggtcatact | tggtatataa | aagactagnc | agtattacta | attgagacat | tcttctgtng | 660 |
| ctcctngctt | ataataagta | gaactgaaag | naacttaaga | ctacagttaa | ttctaagcct | 720 |
| ttggggaagg | attatatagc | cttctagtag | gaagtcttgt | gcnatcagaa | tgtttntaaa | 780 |
| gaaagggtnt | caaggaatng | tataaanacc | aaaaataatt | gat        |            | 823 |

<sup>&</sup>lt;210> 12

## <400> 12

gtettteea tetteteeae agagtttgtg cettacatta ttacteettg ceatttteaa 60 gaaageattg teagetette caateteeat cacetttggg ettgtttet actttgeeae 120 agattatett gtacageett ttatggacea attageatte cateaatttt atatetagea 180 tatttgeggt tagaateeea tggatgtte ttetttgaet ataacaaaat etggggagga 240 caaaggtgat tteetgtgte cacatetaae aaateaagat eeceggetgg acttttggag 300

<sup>&</sup>lt;211> 736

<sup>&</sup>lt;212> DNA

<sup>&</sup>lt;213> Homo sapiens

```
360
gttccttcca agtcttcctg accaccttgc actattggac tttggaagga ggtgcctata
                                                                      420
gaaaacgatt ttgaacatac ttcatcgcag tggactgtgt cctcggtgca gaaactacca
                                                                      480
gatttgaggg acgaggtcaa ggagatatga taggcccgga agttgctgtg ccccatcagc
                                                                      540
agettgacge gtggtcacag gacgatttte actgacactg cgaactetca ggactaccgt
                                                                      600
taccaagagg ttaggtgaag tggtttaaac caaacggaac tcttcatctt aaactacacg
ttgaaaatca acccaataat tctgtattaa ctgaattctg aacttttcag gaggtactgt
                                                                      660
                                                                      720
gaggaagagc aggcaccacc agcagaatgg ggaatggaga ggtgggcagg ggttccagct
                                                                      736
tccctttgat tttttg
```

<210> 13

<211> 893

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)..(893)

<223> where n may be either a or g or c or t/u, unknown or other

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```
660
gcctgcaagt gacaacagcc tttgcggtcc ttagacagct tggcctggag gagaacacat
                                                                      720
gaaagaaagg tttgtttctg cttaatgtaa tctatggaag tgttttttat aacagtataa
                                                                      780
ttqtaqtqca caaaqttctq tttttctttc ccttttcaga acctcaagag gctttgtttt
ctgtgaaaca gtatttctat acagtntgct ccaantgnac agagttacct gcacnncgtt
                                                                      840
                                                                      893
qtecntactt ccaqaatqca caqatqtetq aggacaacca cctgagcaat act
<210>
       14
<211>
       475
<212>
       DNA
<213>
      Homo sapiens
<220>
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<222>
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       14
                                                                       60
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ctgtgatgga atgtaatagt aatttaacag tgtcctttct ttttaactgc ctcaaggata
                                                                      120
cagcaaaata aaacaaaagc aatatgaagg ctgagaatag gtatcagatt atcataaaaa
                                                                      180
gtatagatca aaaggaatct ggtkctnagg ttggcgcagc agcctctaga agcgacnagg
                                                                      240
gagactttta gaactaccat tctcctctat aagtggatcc nangcccagg raaacttgat
                                                                      300
attgagnaca atggccttac tgaaataacc tgtgatccac tcggnctcat catctccacc
                                                                      360
                                                                      420
accaccataa atttgatgag tncctataat attccancca gnggaaatac ctggraggtt
actgaaaggc nacnatcaga cnaaaataaa gnataccgta ggtaaattct acagt
                                                                      475
<210>
       15
<211>
       180
<212>
       DNA
<213>
       Homo sapiens
<220>
<221>
       misc feature
       (1)..(180)
<222>
       where n may be either a or g or c or t/u, unknown or other
<223>
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Page 19

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<400>
       15
gttctcnaga tctcttcaaa attcattntg cgctatagga gctgggatta ccgcgggtgc
                                                                      60
tqqaaccaqa cttqcnctcc aatqqatcct ccanacnqqa nqqqgqqtgg actcacacca
                                                                     120
tttacaqqqq qctcqtaaaq aatcctqttt tqantattnt nccqtcaatt accncccaa
                                                                     180
<210>
       16
<211> 457
<212> DNA
<213> Homo sapiens
<220>
<221> misc feature
<222>
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<223> where n may be either a or g or c or t/u, unknown or other
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       16
                                                                      60
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                                                                     120
tttttncact ctcagacata aatataaacm mantttctac tgtggraaaa catctncagg
qqncntttan ccatqatctc taqnacnanq qqctnqtqqn tnqttttaat qtctctaagc
                                                                     180
                                                                     240
nactngacta gtttctcttn cactgagnaa actgcnacaa gtnnttnctn ctgnatctgn
                                                                     300
actgnaatgc taagttncaa gtnccaatga qctngtgant tanyctttat ttnamcnaaa
                                                                     360
qtnnttaatc ancencaqtq ttactttqna aaqctnctcc ctqqacaqqc qqcccnactt
ctaatgttat gaatgggctg gagnancete nachtgagtt thnwaaggnt caacanceaa
                                                                     420
                                                                     457
trgnaantgt amccgactct aaattccaac cnataat
<210>
       17
       373
<211>
<212> DNA
<213> Homo sapiens
<220>
<221> misc feature
<222>
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<223>
       where n may be either a or g or c or t/u, unknown or other
```

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                                                                       60
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aagtcattcg ctntgancna cacataacag atctcgcaac tgnagtttag cgaggccagt
                                                                      120
                                                                      180
taatttkcca aagntcataa tnctaagnag ttctagnatg gagattcmaa gtccnactgt
                                                                      240
ttaqtcaaga gaccctactg ttaactaqta cctttacact actaactggg taanccataa
ncaattaatg ataaagattg agattactkc cacattctca ctggttataa attaaaacnt
                                                                      300
                                                                      360
caaataaaaa ntcttggcac ttctatggta atatttttat taggataaac tttcaagnag
tggatnctag gtg
                                                                      373
<210>
       18
<211>
       422
<212>
       DNA
<213>
       Homo sapiens
<220>
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<222>
       (1)...(422)
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       18
<400>
                                                                       60
cccacactgn tgggccatgg aagccatgag tgtaccacat ggccctgtcc cactggccac
                                                                      120
agtngattgg ttggntcggg agtagtcacc tgattcaagn tgggccaatc agatcctacc
tccangggt tnggaattag aaaacagtga ccctagytag tntaggcnac ttgaactgga
                                                                      180
                                                                      240
gggcccatac attcaggagc cttatggggc catgtacaca tggaagcagg aagantgaag
                                                                      300
gagggagaag tagaggccag aaacccacct gggttcctgt ttcccaatgn taagtccctg
                                                                      360
ccatgtycct gctcttcctg tggttnggat cttcaaaggt tgctcaaatt nggggcagtg
                                                                      420
gccctggcag cttttcaaat cctycccatt tttattgaag ctgaaagacc cttgactaga
                                                                      422
ac
```

<sup>&</sup>lt;210> 19 <211> 395 <212> DNA

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      misc feature
<221>
      (1)..(395)
<222>
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      where n may be either a or g or c or t/u, unknown or other
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                                                                      60
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cttccttgga tgtggtagcc gtttctcagg ctccctctcc ggaatcgaac cctgattccc
                                                                     120
cgtcacccgt ggtcaccatg gttaggcacg gcgactacca tcgaaagtta atagggcaga
                                                                     180
tetegagaat tetegagate teentemaat tattaettea nttkeggtag tgateagnae
                                                                     240
naggcagttc tattgatttc tctcctttca ttctgagttt ctccataaat taattggacc
                                                                     300
                                                                     360
taatcatgtt tknaatcctg tcttttaggg ggnanttgna ctntcaagtg tttaaaggga
                                                                     395
gggncggagn atgattntgg attggagtga gagca
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      DNA
<213> Homo sapiens
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      misc feature
<221>
<222>
      (1)..(487)
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                                                                      60
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ccaaatggan aaatgaaccc ctggtcaccc cqatctcact agtncctncc ctgaaacccg
                                                                     120
                                                                     180
ananatotga gtoottttot cotttactaa coottnotoo aatootgoto atgggaatta
                                                                     240
angntgtaaa atangcctgg ggnacctcgg rectetneee tgggntetgt gggtgggagn
                                                                     300
actgtggaag ccgtwtcaat cgccccacc tatgagagcc tttctncagg gccagccatg
                                                                     360
aacgtccccc atgtnatcag natctncagg ctactgctgt ccttcytgga twtttaacct
                                                                     420
ggrggcgggc cagggacaga aaarggaggt ggcaagatcc ttgaacaaaa ggagctataa
                                  Page 22
```

```
aagggcgttg ggggaagcaa ggcaaacggc agattaaaca agcaggcacc tcaaggaaac
                                                                      480
                                                                      487
gtgacgc
<210>
       21
<211>
       500
<212>
       DNA
<213>
      Homo sapiens
<220>
<221>
      misc feature
<222>
      (1)..(500)
       where n may be either a or g or c or t/u, unknown or other
<223>
      21
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                                                                       60
                                                                      120
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                                                                      180
atcaaatnga aaggnatntn ggtngancag ttagttngyn centtngnng agaccactgg
                                                                      240
gntgtngasa ccagattcmk gggtncnaat cttanggtaa tctnagagcc aacacatggg
                                                                      300
tcatnttats ccccaaactt agccacatct bgtggggyta tggngtcacc ccaagagcag
gaggagcatg gntggatgga aatccatctc caccactgga accccaawtt ctgaatgnat
                                                                      360
                                                                      420
cacctgttag agtttcttgt ycataaaata gcagggaatt taggaattta gtttttttt
                                                                      480
aatagtttgg geettttate cacactetea ggagettagg ataettttet cetteagete
                                                                      500
actctgaaac tccctctgga
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       22
       406
<211>
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       DNA
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       Homo sapiens
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       misc feature
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       where n may be either a or g or c or t/u, unknown or other
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22

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|--|-----------------------------|-------------|-------------|-----|
| aataaattta aagaaaaatg gcagta   | atgtt tctgtgragn            | ccacgagtac  | tcattttaaa  | 120 |
| ggactcmaga gttncagrna agtaaa   | aaagr aaagagtaaa            | atcattttct  | aantytywyy  | 180 |
| ttccagaaat aacgatgttg agcatt   | taagt ggacttcatt            | tcatactctt  | tcmmagntta  | 240 |
| tgtaggcata wawatgtgtg tgtata   | ataca tatatatggg            | tacatcctta  | gagaagttgg  | 300 |
| ctggctagat agacacacnt naaaaa   | atggr atcatactct            | aatkccattt  | nnantttana  | 360 |
| aaatacatat tcagancene tgtnet   | ttata nacagagtaa            | ntgaaa      |             | 406 |
| <210> 23<br><211> 289<br><212> DNA<br><213> Homo sapiens                                   |                             |             |             |     |
| <400> 23 gacccagtaa aacttatctc atgago  | cataa ggctgaatgg            | gattgacagc  | ctacagaacc  | 60  |
| cggattttat catgagggca ttagtg   |                             |             |             | 120 |
| gtgaaaggaa agcaacttgt gcctta   | acagg gtcaagctag            | gtcaaggaaa  | ttcccaggag  | 180 |
| cgtgtggaag ctctctacct gatagg   | gtgag ctcaagctta            | tgaccgccca  | agcttctccc  | 240 |
| caagetteee tteeactget teetet   | ttgat tgacttccac            | agcaaggtc   |             | 289 |
| <210> 24<br><211> 367<br><212> DNA<br><213> Homo sapiens                                   |                             |             |             |     |
| <pre>&lt;221&gt; misc_feature &lt;222&gt; (1)(367) &lt;223&gt; where n may be either</pre> | r a or g or c or            | t/u, unknow | vn or other |     |
| <400> 24<br>ccatcaggat ttactgagta aaaato   | ctcag gtnttaacca            | tgcccctaaa  | atgtgctatn  | 60  |
| ccaaagagga acaggttact tgggag   | ggaaa aaagctgcct            | gggnaactcc  | ccncaaatgt  | 120 |
| ttattttaaa taaaaatggt ngatgo   | gaaat attttntaaa<br>Page 24 | agaacttggg  | gtntaatatg  | 180 |

```
gnatactgcc catcaaacaa aaaaggaaat aaaacttcnt tcccatttat aataagttnc
                                                                      240
ccaccettta ctatcaagat tacaacttat tgacetttta tgetngetng gtttttttgg
                                                                      300
gactgcctaa tccaatgttt aaattttcta ngtctgnatt tcaatgtggg taggagtnat
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ttttcaa
                                                                      367
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       25
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      425
<212> DNA
<213>
      Homo sapiens
<220>
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      misc feature
<222> (1)..(425)
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aaagaaaaat gcacatttta ttgttgcagt ttaaaatttc atttngngtg aaactaaacg
                                                                      120
tgaaacaaaa gggataaatg tgttttgntt ttgttttggt tttacctgtt tggggtattt
                                                                      180
ttttctgagt ttgtgtagaa acccgtgtgg ntacactggg taatcttgtc agggntacma
                                                                      240
amcttgggtc ttgantttgg ttanttggnt ttanttggtg nacccatgta cttgctcttc
                                                                      300
cntcccagaa acatagcttg gtaggcnagg gttaanccag tgtcggcgan cccatgtccc
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tancacagca tcttgtaagt ttaatgcaca atcgttccnt cccaggatgg anttatcatt
                                                                     420
ataaa
                                                                      425
<210>
       26
<211>
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<212>
      DNA
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<220>
<221>
      misc feature
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      (1)..(2377)
<223>
      where n may be either a or g or c or t/u, unknown or other
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taaaggaaaa gtggtactgt tccaacctga aatgtctgtt ataattaggt tattagtttc 1500 ccagagcatg gtgttctcgt gtcgtgagca atqtgqgttg ctaactgtat ggggttttct 1560 1620 tattaataag atggctgctt cagcttctct tttaaaggaa tgtggatcat agtgattttt ccttttaatt ttattgctca gaaatgaggc atatccctaa aaatctcgga gagctgtatt 1680 1740 taatgcattt ttgcactaat tggtccttag tttaattcta ttgtatctgt ttatttaaca 1800 aaaaattcat catatcaaaa agtgtaagtg aaaaccccct ttaaaaccaaa acaaaaaaat gaaataaaat taggcaaatt gacagacagt gagagtttta caaacatgat aggtattctg 1860 1920 ctcggcaatt tgtaagttta catgttattt aaggataaag gtaaatcatt caaggcagtt 1980 accaaccact aactatttgt tttcattttt gtcttgtaga aggtttatat cttgttttac cttggctcat tagtgtttaa aaatgtactg atgatgtgct tagagaaatt cctggggctt 2040 2100 tcttcgttgt agatcagaat ttcaccaggg agtaaaatta cctgaaaacg taagaagttt 2160 taaacagett tecacacaaa ttagatgeaa etgtteeeat gtetgaggta ettatttaaa 2220 agaaaggtaa agattggcct gttagaaaaa gcataatgtg agctttggat tactggattt 2280 tttttttttt taaacacacc tggagaggac atttgaaaac actgttctta ccctcgaacc 2340 ctgatgtggt tccattatgt aaatatttca aatattaaaa atgtatatat ttgaaaaaaa 2377 aaaaaaaaa aaaattcctg cggccgcaag ggaattc

<sup>&</sup>lt;210> 27

<sup>&</sup>lt;211> 489

<sup>&</sup>lt;212> DNA

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;220>

<sup>&</sup>lt;221> misc feature

<sup>&</sup>lt;222> (1)..(489)

<sup>&</sup>lt;223> where n may be either a or g or c or t/u, unknown or other

| tataataagc | caggcatgga | tgaccttata | gcaccctgta | tttatacaga | accaccagga | 180 |
|------------|------------|------------|------------|------------|------------|-----|
| ggatagtcat | gacaacnatg | acactgatca | tgatnccagc | attcagaatt | gagtncaggg | 240 |
| ctctctggcc | cacagtctcg | gtatcttctg | tgnatggggt | atagattarc | tgtccatcct | 300 |
| tccgggnata | aaanctgact | gacttaatgg | tanccacgac | caccacccat | kcagagagtc | 360 |
| acagggacma | aagagcatga | tcaacatgct | tggcnccata | tttcaatntc | anctcctcat | 420 |
| cttcttcctc | atcttnctcc | accacctncc | gggagttaac | cctggggtcg | tccattagat | 480 |
| aatggctca  |            |            |            |            |            | 489 |

<210> 28

<211> 2307

<212> DNA

<213> Homo sapiens

<400> 28

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900 ageceagtgg getgeattag aaaataagte caageagegt aetaateeet eeeetaceaa 960 ccctttctcc agtgacttac agaagacgtt tgaaattgaa ctttaagcaa tcattatggc 1020 tatgtatctt gtccatacca gacagggagc agggggtagc ggtcaaagga gcmaaacaga 1080 ytttgtctcc tgattagtac tcttttcact aatcccaaag gtcccaagga acaagtccag 1140 gcccagagta ctgtgagggg tgattttgaa agacatggga aaaagcattc ctagagaaaa 1200 gctgccttgc aattaggcta aagaagtcaa ggaaatgttg ctttctgtac tccctcttcc cttaccccct tacaaatctc tggcaacaga gaggcaaagt atctgaacaa gaatctatat 1260 1320 tccaagcaca tttactgaaa tgtaaaacac aacaggaagc aaagcaatgt ccctttgttt ttcaggccat tcacctgcct cctgtcagta gtggcctgta ttagagatca agaagagtgg 1380 tttgtgctca ggctgggaac agagaggcac gctatgctgc cagaattccc aggagggcat 1440 1500 atcagcaact gcccagcaga gctatatttt gggggagaag ttgagcttcc attttgagta 1560 acagaataaa tattatatat atcaaaagcc aaaatcttta tttttatgca tttagaatat 1620 tttaaatagt tctcagatat taagaagttg tatgagttgt aagtaatctt gccaaaggta 1680 aaggggctag ttgtaagaaa ttgtacatra gattgattta tcattgatgc ctactgaaat 1740 aaaaagagga aaggctggaa gcatgcagac aggatcccta gcttgttttc tgtcagtcat 1800 tcattgtaag tagcacattg caacaacaat catgcttatg accaatacag tcactaggtt 1860 gtagtttttt ttaaataaag gaaaagcagt attgtcctgg ttttaaacct atgatggaat 1920 tctaatgtca ttattttaat ggaatcaatc gaaatatgct ctatagagaa tatatctttt 1980 atatattgct gcagtttcct tatgttaatc ctttaacact aaggtaacat gacataatca 2040 taccatagaa gggaacacag gttaccatat tggtttgtaa tatgggtctt ggtgggtttt 2100 gttttatcct ttaaattttg ttcccatgag ttttgtgggg atggggattc tggttttatt 2160 agetttgtgt gtgtcctctt cccccaaacc cccttttggt gagaacatcc ccttgacagt tgcagcctct tgacctcgga taacaataag agagctcatc tcatttttac ttttgaacgt 2220 2280 tggcgcttac aatcaaatgt aagttatata tatttgtact gatgaaaatt tataatctgc

| tttaacaaaa ataaatgttc atggt   | ag   | 2307      |
|---|--|-----------|
| <210> 29<br><211> 343<br><212> DNA<br><213> Homo sapiens            |  |           |
| <220> <221> misc_feature <222> (1)(343) <223> where n may be either | er a or g or c or t/u, unknown or            | other     |
| <400> 29<br>ggcagctatt tacatggcct cacag                             | gcatc agctgaaaag aggacccmaa aagaa            | attgg 60  |
| agatattgct ggtgttgctg atgtt   | acaat cagrcagttc tatagactga tctat            | cctcg 120 |
| agccccagat ctgttcctta cagac   | ttcma attkgacacc ccagtggaca aacta            | ccaca 180 |
| gctataaatt gaggcagyta acgto   | maatt cttgannacm aaacttknec tgttg            | tacat 240 |
| agcctatacm aaatgctggg ttgag   | geettt cataaggnaa aacmnaagae atggn           | tacgc 300 |
| attccagggc tkgantactt attgc   | ettggc attettgtat gta                        | 343       |
| <210> 30<br><211> 363<br><212> DNA<br><213> Homo sapiens            |  |           |
| <220> <221> misc_feature <222> (1)(363) <223> where n may be either | er a or g or c or t/u, unknown or            | other     |
| <400> 30<br>aaagggctaa ccagccactg cacca                             | aaatt agteettaea ttataataet etgge            | cattg 60  |
| gaagagaaaa atgggaaaat tcaac   | caattt gaaagactat gatccctctg gctca           | tgatc 120 |
| tactgaccag aatgaagtcc tgaag   | gattt ccttctgtta tgttatctac ccagc            | taatc 180 |
| tcaaacaaga ggagctggaa agaac   | caaage cecatgaage taccectaga eecag           | aaagc 240 |
| caagaacagg gccaagaaaa tgaac   | agcag acaagcctga aatagaagtg gnaca<br>Page 30 | gacat 300 |

| gtggnaagac caagtacac   | cagttnggtg    | gtaaagattc | cgatatcaag  | cttatcgata  | 360 |
|--|---------------|------------|-------------|-------------|-----|
| ccg  |               |            |             |             | 363 |
| <210> 31<br><211> 362<br><212> DNA<br><213> Homo sapiens     |               |            |             |             |     |
| <220> <221> misc_feature <222> (1)(362) <223> where n may be | e either a o  | rg or c or | t/u, unknov | wn or other |     |
| <400> 31 agtacatggt ttcttgncca                               | a ccccasccac  | ctttccccat | ctctaccggy  | tgatagtctc  | 60  |
| tcagntagta gaccttttct  | ngtttagrca    | gggccacntt | tttaaaaact  | ccagacgggt  | 120 |
| accctccatg tkgmaggcga  | cgtggccctg    | gatcactcaa | ctgantgtca  | tnkgantggt  | 180 |
| gcccccagag tgaggacaat  | ggtgnagccc    | tcctaaggcc | ctncctgagt  | gtccctcctt  | 240 |
| catgaagatg attctgaggr  | ttcccaggcc    | tncacccttc | ttkgaaarcc  | catagnagtt  | 300 |
| catatgnact netetnetat  | gctcaccaaa    | ctctnccttc | atcatacttg  | ggggatgtgt  | 360 |
| gt   |               |            |             |             | 362 |
| <210> 32<br><211> 475<br><212> DNA<br><213> Homo sapiens     |               |            |             |             |     |
| <220> <221> misc_feature <222> (1)(475) <223> where n may be | e either a or | gorcor     | t/u, unknow | vn or other |     |
| <400> 32<br>gtgcatgtaa ttacagttac                            | gatatatgaa    | acgtacaaaa | tattatgagt  | atataatatg  | 60  |
| gggagactta atctagtttc  | ggggatcagg    | gcacatttct | ctaagaaagt  | gacatttgaa  | 120 |

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```
180
ttgagctctg aaggataaat agacattacc cagaagaata aaatgatggg gaagaaggag
                                                                      240
qacattttcc gtagatttcc agtggccccn cttgatccct tatccactca tcactnagga
                                                                      300
ggatattaaa tkctatagaa atggragraa gacmmaaaga gaccctnata tctcgagagg
                                                                      360
atccagcmaa attccaagag acacaacawt aagaaactng gaaggaagag aaaaggcmmn
                                                                      420
nnaqqnaaaa qaaaqacaaq gaaattnwnn nagnacggag agaaagagag agggagcgtn
                                                                      475
naagggnacg agaaaggcga gnacggggac gagaaagggn aagagnacgt aaacg
<210>
       33
<211>
       346
<212>
       DNA
<213>
       Homo sapiens
<220>
<221>
       misc feature
<222>
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<223>
       where n may be either a or g or c or t/u, unknown or other
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                                                                       60
                                                                      120
aaaaaggacc ggaaaatgaa agccagatcc cagtaagggg tagagagggg ccaagagaac
                                                                      180
tgaacatetg ggetgeegga gaaateaaag tetaggaagt aagaggtaag agtgtaetae
                                                                      240
aggggacata ccccaatctc ttggttccct ccctctncct tcctctccca gagacccagg
                                                                      300
tccctgggac tatnttggat ctgtctctga agctgaaaaa caaaaggcag aggagacagt
                                                                      346
cggntctaag tgaccaatct caagccagct tggtcagaan tcctaa
<210>
       34
<211>
       433
<212>
       DNA
<213>
       Homo sapiens
<220>
<221>
       misc feature
<222>
       (1)...(433)
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where n may be either a or g or c or t/u, unknown or other

<223>

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                                                                      120
gtnccaaggc tcccctgctc ctntccctnc cccagggcga gataggaarc cggaarcctg
                                                                      180
ggcaggctga rcccanccga ctggaaccag ggnagancct gtgggtgggt ggnagggagg
                                                                      240
gaaggaggcc agattcctcc agaactgggg ragagaacag gttttggaag ttgggggagg
                                                                      300
gtttgggttt cacagtgatg gtttcatgan accctggagg gttncacact cctggtkcan
                                                                      360
ttttgntant cgtnctttga anacarneeg etteetttea acceteenen taaaaagttt
                                                                      420
tgatntttta agg
                                                                      433
<210>
       35
<211>
       350
<212>
       DNA
<213>
       Homo sapiens
<220>
<221>
      misc feature
<222>
       (1)..(350)
<223>
       where n may be either a or g or c or t/u, unknown or other
<400>
       35
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                                                                       60
accaactate caggaaccag ganteaceta ttactaeggt tecageagaa tgggaateee
                                                                      120
attctcggat atccagggta aatccctgac catgtgagag gaatcctagt gccccaacaa
                                                                      180
cctcacccc tgactcctcc tcaanggctc tgccaagtca acaaaaaaat cctctacatt
                                                                      240
tacactatct gtaaagccaa agaccagcgt caacctaaat gtccatcaat aagggaatgg
                                                                      300
ttggataagt aaaaattatg cagctgtagg aaggaatgaa gaatgtctat
                                                                      350
<210>
       36
       512
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<220>

<sup>&</sup>lt;211> <212> DNA

<sup>&</sup>lt;213> Homo sapiens

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<222>
       (1)..(512)
<223>
       where n may be either a or q or c or t/u, unknown or other
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       36
                                                                       60
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                                                                      120
tatcqaatcc tcgagatcta cctaaaaaaa aaaaattaac ttcccaaatg tgggagtcta
                                                                      180
ctctqttccc tcctnqtntt tattnctqtn tactttycta anatggttaa aatgtgtaan
                                                                      240
caatatqtqt cctttnactn kqqkqtqaac atttttycta ttataaatyc twagaaaata
                                                                      300
ttnctatqqn tatqaqatat tkgattccaa qtqcctkgta atttactyct caaatgtccc
tgatgtkgga nattkgttnc tagtgttyca ctatttaaaa aaacagnaat atctgtctnt
                                                                      360
atqctnaqaq cttntycaqt ttycaaatta ttnccttagg gtaaaatcct agaagtagaa
                                                                      420
tttttggggc aaattatcta catatttata attgtcttqq tattccaaat ctcqttttcc
                                                                      480
                                                                      512
aaaagcttat atcaatttgt acttaacacc ag
<210>
       37
       450
<211>
<212>
       DNA
<213> Homo sapiens
<220>
<221>
       misc feature
<222>
       (1)...(450)
       where n may be either a or g or c or t/u, unknown or other
<223>
<400>
       37
                                                                       60
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                                                                      120
aaqqttqqtc taqttarqqt nqntqqqqac cctcccaaqa qctgnagaag cagagataag
nagageetne tnetaaatee acatggneet yeeaaggnte teateeteta ggaeetaeea
                                                                      180
ctnctcagtc tacttacttg tctyctgana tgctttctng aggggnagaa aacaaaggaa
                                                                      240
                                                                      300
qagtaataac aaqcaqnaga aactqcaqaq aatgnaaaat aagtccatag gagaatgttg
naaatagaat catconcott tacatattgt cactocagga aaactgocaa gaaccactca
                                                                      360
```

```
ttcctctaga tacamttcct gtaggatccy cccagacttc ctcccttaag cacgtcagta
                                                                      420
ttctccttat tctcccttca tttcaaccct
                                                                      450
<210>
       38
<211>
       766
<212>
       DNA
<213>
       Homo sapiens
<220>
<221>
      misc feature
<222>
      (1)..(766)
<223>
       where n may be either a or g or c or t/u, unknown or other
<400>
       38
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                                                                       60
actcacccgt gatgtggttt gtcccttttc cagccagtgt gttggtaata aaagtcacct
                                                                      120
ttcagagctt tggtccccgt aatgcccgtc tttcctgtgt ccaggaataa cctttqntac
                                                                      180
taggcagtcc tctgaaagat ttgtagaagg ttaaagtgga aagggacttg gaagctcata
                                                                      240
gaatccatgc ctcttctttt agcatcaagg aattagaagt cctgagagat gaagaatgtt
                                                                      300
gtcttcccaa ctcaaaccca tttcttgaag ccatttccct ggttactgna ttggccacaa
                                                                      360
cccttccccc ttgntatcct catcctgcta atgctgtttt taatggcctg ccagtctgga
                                                                      420
tttgtctttg gcaaccaaac aattttgctt cacaagattc ctacttaagg gaagagagg
                                                                      480
gctcctcatt tntcacttgt acaagagcag ggctggtcag ctttacacag gtgtcagatg
                                                                      540
aaccgtcaca anccagantt ncatgttggc ctcaggaggg cttcnaggtc caacatctcg
                                                                      600
acgtaaggag cgttcccagt tctttcatgc tcagataaca gtnctaactn cagctgtttc
                                                                      660
atcccnaatc cctanttgag gtcttaacat ctattccatt ttkccnacma gggttatnct
                                                                      720
gttaaccctc tncaccagan ttaganctga ctgatncact tcctag
                                                                      766
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<sup>&</sup>lt;210> 39 <211> 327 <212> DNA

<sup>&</sup>lt;213> Homo sapiens

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       39
                                                                       60
tcatacttgt atagttcknt aagataatca ctctctcact cagacatnng gngrarngcc
cntcqatcac ttqqqanaqq nqacttqcma tqtttaatqa ttqtcanccm nanaantaaq
                                                                      120
ctnacagggc aaaaacagcc tyangtcagt tetntetece taateeteta graknaaate
                                                                      180
nnawrntrnn actctqnntc tqtqccatna nanatnttnc anttqtattt atqnactcca
                                                                      240
catngagtac acctcactaa wintncinct gggnaacncc cscmccantt titnntignt
                                                                      300
                                                                      327
gananacarc aatgctggca tacngtg
<210>
       40
<211>
       431
<212>
       DNA
<213>
       Homo sapiens
<220>
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       where n may be either a or g or c or t/u, unknown or other
<223>
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                                                                       60
ccaqactttc ataactngtg ttattatgaa gattagagtn ctgaagctta ctggattaga
agagnacgag ggggtagctg ccccaatata ttctaatttc tctkgaggac caccaaatng
                                                                      120
gmagagtgtc tctqataggg aaaaggaaga gttggaaggn atcttagcct ctagganaaa
                                                                      180
agaaccattt ttattqqcca ccaaaqttac atctaqtkqc ctacaaattt atntccaaac
                                                                      240
                                                                      300
teettateet gecaatteag ggteetgnaa aetgatgeea aactatagtt tagtetneta
tcacatgact gcattataca tacccaatta tctgggmaaa cagacctgat ccaaacacag
                                                                      360
ttkggtnett teettneett neettkgttt ageetgtyce gtetaetngg ggtgtettkg
                                                                      420
atttgctcca g
                                                                      431
```

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<210>
       41
<211>
       276
<212>
      DNA
<213>
      Homo sapiens
<220>
<221> misc feature
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<400> 41
                                                                      60
tttttttcca ccagacttac caaattttag atgnatggaa gaactgtaaa tncccataaa
                                                                     120
gntaatctat ncatngaccc ccaccattat qataqaqatc atntqqtqan taatqaaaqa
tgaaactctc agctgggaaa gtaanaagga ataggatgta agtatgagct cctgttttt
                                                                     180
attatnttta tggatgccc ctcagaaaaa tatgnaangg ggtaactgac tnggaaatgg
                                                                     240
gtnttttatg natagtaagt cccactcacg aggttt
                                                                     276
<210> 42
<211>
      270
<212> DNA
<213> Homo sapiens
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<221> misc feature
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<223> where n may be either a or q or c or t/u, unknown or other
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tegagateta aageagatgn agaetttnea enaaataaat ttaetgettt tttyetgtga
                                                                      60
nataaqttnc qaqaaqqaaa qctttkqatt nctrnatqaq tycaqtqqat tatyctnaqn
                                                                     120
actagagtkg nkgtkgaagn catggnacat ttatatagwt ywttcagttc tacactaaat
                                                                     180
gatggaagaa tgagaaatcc tatatgacaa atagaaaagt ycatyctyca taattgagaa
                                                                     240
cattgagcag ttggattacc aagatctcga
                                                                     270
<210>
       43
<211>
       580
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<212> DNA

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<223>
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      43
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                                                                       60
                                                                      120
tatttgatat atttgtttta atatatgttc ttgttttagc aggtaaaaga atcataacaa
atqtttttaa aaqaacatta ttattcttta ataactqtct ttttatgcat ttggcatgcc
                                                                      180
aactttttc attaacatct tgggtatttt ataaaaagag ggaaagctca atgtttaaca
                                                                      240
ggtagctttt cttaggagct aaattaaata tttaacaaat ctccttccct tcncccttcc
                                                                      300
                                                                      360
ccatccctca aagnatgggt gnanttatct ttaacttttg ggctngcatc cntgnaagct
tatqqntant cataqtctna cmaaactaqq qtcaccnaac ttggcagcag aaataatcta
                                                                      420
gtcttactgt gataactacc caattacttt attatttttc cagttncagt tccaaatgtt
                                                                      480
                                                                      540
ttqtqqnaan aatttttnct qtttqtqatt ttccaaqctt aqaqqqqaa accaactttc
                                                                      580
caqtqttqqa qaqcactqna taqtttatqn attqtqtaaa
<210>
       44
<211>
       348
<212>
      DNA
<213>
      Homo sapiens
<220>
<221>
      misc feature
       (1)...(347)
<222>
       where n may be either a or g or c or t/u, unknown or other
<223>
<400>
      44
tgtttcttaa nacagaaaaa aatttactga tnggacattg ttctaagtgt attattgtat
                                                                       60
taaatggatc atttaattta atcttcataa ctgacatagg agttgagtaa cttgtgtggt
                                                                      120
caaatageta gtaagtgatg agtaggetgg gegeagtgge teaageetgt aateecagea
                                                                      180
                                                                      240
ctetgggagg ctgaggcagg cagatcactt gaggtcagga gtttgagacc agcetggnca
                                  Page 38
```

```
acatggnaaa acctcgtctc tactaaaaat acaaaaatta gctgggcgtg gtgggngcgc
                                                                     300
acttgtagnc ccagntactc ggaaggctng aggcaggagg aatcgctt
                                                                     348
<210>
       45
<211>
       430
<212> DNA
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<220>
<221>
      misc feature
<222>
       (1)..(430)
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       4.5
gctcatcatg cttcacgggg gaggctgtgc gggaagaatg ctcccacaca qnataaaqaa
                                                                      60
tgctcccgca caggatagag aatgcccccg cacagcatag agaagccccc gcacagcata
                                                                     120
gagaatgccc ccncacagca tagagaagcc cccgcacagn atagagaatg ctcttcacct
                                                                     180
ctgggttttt aaccagccaa actaaaatca cagagggcaa cacatcattt aagatagaaa
                                                                     240
tttctgtatc ttttaatttc tttcaaagta gttttactta tttncagatt ctatttcttt
                                                                     300
actagaatta agggataaaa taacaatgtg tqcataatga accctatgaa acaaacaaaa
                                                                     360
gctaggtttt ntncataggt ctncttccnn attgaatgaa cgtctntcct caaatttanc
                                                                     420
ccccaggga
                                                                     430
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       46
<211> 402
<212> DNA
<213> Homo sapiens
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<221> misc feature
<222>
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<223>
      where n may be either a or g or c or t/u, unknown or other
<400>
       46
caaaccctat gngaaatgga aaggaaacta ttctaaagca taaaaggtag aaatatatat
                                                                      60
```

```
accacccatc aagaaagatt atttttgntg aactcaagtc accagagtgg ctaaagccca
                                                                      120
gtagaatgga aatgattata tggaaggtga ggccaacggg accagaacat actgtgatag
                                                                      180
acagnaagga gctgtctatc ttctattctc ccacagaagg aggtgactaa gtcanctgcc
                                                                      240
caagcaatgt tatatctgca attgatgtnc agcagtacaa qtctqaacaa cttqqattqq
                                                                      300
ntgattaant gtccnacant aaacatacaa qtcntaataq ctatctctat ataqtctttq
                                                                      360
ggtntttaca aggcactgnc acatnatete acetatteet ee
                                                                      402
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       47
<211>
       500
<212>
       DNA
<213>
       Homo sapiens
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<221>
       misc feature
<222>
       (1)..(500)
<223>
       where n may be either a or g or c or t/u, unknown or other
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       47
agnatecaga attgagtgna gngttetetg gneeacagte teggtatetn etqtgaaatg
                                                                       60
gggtatagat tctacaataa aacaaacaca nnggccctag gtcagtgtta atggagatca
                                                                      120
ccanceacat taccacetee aacacagaat tttettttte ttaatneaat negtntetta
                                                                      180
taagtcactt tnccccaact caccaatcta gntaagaatt tttaccctga gaaaaacagc
                                                                      240
tacactctaa aattgctnca aagaaaatgt ctaacatntg gaaagaagga cttaacatgt
                                                                      300
gangnagaca ctggctccat ctagngggtg ctttnttttq aaataattat aatnccncat
                                                                      360
caaattttng ggggntacag cttattagga acttgttata gaaccagatt ctgccacaga
                                                                      420
anccacgtgg gttgacaagt ggttgncaga agaaaggtaa tatggcttat nattagggnc
                                                                      480
teneatetge agagtaattg
                                                                      500
```

<sup>&</sup>lt;210> 48 <211> 460 <212> DNA

<sup>&</sup>lt;213> Homo sapiens

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<221>
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<222>
       (1)...(460)
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aaaatgcttg anncaaatgt catctagttc catctctacg actctcatgg ggtccaaaga
                                                                       60
                                                                      120
agagttttan ttgagtttta gaatgtgaag ttgtgaagtg tctgaaaaac tacatggtgn
tctgaaagnc aaacttttag ccttggggga gagcatctaa gacagnaggt gaagggnagg
                                                                      180
ggttagaact agagggattg aagaatatta tccatatagg ttagggttag gtnnggcaac
                                                                      240
                                                                      300
gttttataga acaaacattg gcaagctaca gccacaggcc agatctgtct nctaccttcc
cacaaaggtg taataacaaa gttattcaca aatgtgtgaa taaactnnca ttggaaagtg
                                                                      360
cccacgctcc tnggtttata cattgtctgt ggctgctttc acactacagt agcacaggtg
                                                                      420
                                                                      460
agtgtntgca ctggagacca tatgccccat agagctttaa
<210>
       49
<211>
       372
<212>
       DNA
<213>
      Homo sapiens
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<221>
      misc feature
<222>
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<223>
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atcaagcaac agtgtgttat gcctatactc catgtttata tgtgtgtatt aaaaaatgta
                                                                      120
tttngtatat atgtgtatgt ataagtgtgt gtgtgtgtat gatgattctn ctcccgnttt
gaaggtgaaa gaaagcacac ctttatttaa gcataaactt tgggtttcan gatactgtct
                                                                      180
                                                                      240
ggaaaaatga tttatctccc actttgaaat tccaaaatac gtacatatat ttttttttc
ttttctttt tagtttnagg gtcttgctgt gttgcccagg ctggagtgca gtagtgtgat
                                                                      300
                                                                      360
catagntcac acagneteta acteecaggn teaagntate tteetgeece agneteetga
                                                                      372
gtagntggga ct
```

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50
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<211>
       500
<212>
       DNA
       Homo sapiens
<213>
<220>
<221>
      misc_feature
<222>
       (1)..(500)
<223>
       where n may be either a or g or c or t/u, unknown or other
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                                                                       60
caaaaaatca aagggaagnt ggaacccctg cccacctctc cattccccat tctgctggtg
gtgnctgctc ttcctcacag tacctcctga aaagttcaga attcagttaa tacagaatta
                                                                      120
                                                                      180
ttgggttgat tttcaacgtg tagtttaaga tgaagagttc cgnttggttt aaaccacttc
                                                                      240
acctaacctc ttggtaacgg tagtcctgag agttcgcagt gtcantgaaa atcgtcctgt
gaccacgcgt caagctgctg atgggggaca gaaacttccg ggnctatcat atctccttga
                                                                      300
neteggeeet caaatetggt agtttetgea eegagggaea eagteeaetg egatgaagta
                                                                      360
tgttcaaaat cgntttcttt agggaactcc ttccaaagtc caatagtgna aggtggtcaa
                                                                      420
ggaaggattt ggaaggaagn tgnaaaagtc agncgggaat cttgatttgg ntagntgtgg
                                                                      480
                                                                      500
ananaggaaa tcacttggcc
<210>
       51
<211>
       105
<212>
       DNA
<213>
       Homo sapiens
<220>
<221>
       misc feature
<222>
       (1)..(105)
<223>
       where n may be either a or g or c or t/u, unknown or other
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       51
ggaaagaggt ctcctaacac ccagacagtg taaaaatcca gtttttcttc cttttggnng
                                                                       60
gagacagagt ctcgcactgt agctcaggct ggagtgcagt ggcac
                                                                      105
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 <211>
       387
 <212>
        DNA
 <213>
       Homo sapiens
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 <221> misc_feature
 <222>
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 <223>
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agteceaget acteaggagg etggggeagg aagatagett gageetggga gttagagget
                                                                        60
gtgtgagcta tgatcacact actgcactcc agcctgggca acacagcaag accctaaaac
                                                                       120
taaaaaagaa aagaaaaaa aaatatatgt acgtattttg gaatttcaaa gtgggagata
                                                                       180
aatcattttt ccagacagta tctngaaacc caaagtttat gcttaaataa aggtgtgctt
                                                                       240
tctttcacct tcaaagcggg agaagaatca tcatacacac acacacactt atacatacac
                                                                       300
atatatacaa aatacatttt ttaatacaca catataaaca tggagtatag gcataacaca
                                                                       360
ctgttgcttg ataaaatata gggatcc
                                                                      387
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<211>
       380
<212>
       DNA
<213>
       Homo sapiens
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<221>
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<222>
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tatatttnat caagcaacag tgtgttatgc ctatactcca tgtttatatg tgtgtattaa
                                                                       60
aaaatgtant ttgtatatat gtgtatgtat aagtgtgtgt gtgtgtatga tgattctcct
                                                                      120
cccgnnttga aggtgaaaga aagcacacct ttatttaagc ataaactttg ggtttcnaga
                                                                      180
tactgtctgg aaaaatgatt tatctcccac tttgaaattc caaaatacgt acatatattt
                                                                      240
tttttttttt ttcttttta gtttnagggt cttgctgtgt tgcccaggct ggagtgcagt
                                                                      300
                                  Page 43
```

```
agtgtgatca tagntcacac aggctctaac tcccaggntc aagctatctt cctgcccag
                                                                      360
nctcctgagt aggtgggact
                                                                      380
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<211>
       521
<212>
       DNA
<213>
       Homo sapiens
<220>
<221> misc feature
<222>
       (1)..(521)
       where n may be either a or g or c or t/u, unknown or other
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ctgcagtaag ccacgttcat gccactgtac tctagcgtgg atgacagaga gagatcctgt
                                                                       60
ctttggaaga aaaaacaaa aagaaaaaa aaagagtatg gccatggcct tataatatag
                                                                      120
aaggggtcac atattaatct ctgaaaatgg atctcttgtg ggctttcata caaggcaaca
                                                                      180
gccacagagt acgtacctga aagctgcctg ggnttaatgg ctggnagtat gttctaactn
                                                                      240
gttcaggnac ccatgtcacn actggtggtt acagaatgtg aatctcacac tgtccnaaat
                                                                     300
cggttttatt tttaaaanga ataattctan tacattacct tataaaaagt aggtaaccta
                                                                     360
attttggntt ttaaaagtga attgagggca gatgcaagtg gntcacacct attaatccca
                                                                     420
aataccttgg agaggcaag gtaggaggat tggttggagc ccaggagtcc aaagaccagg
                                                                     480
ctagggaata ttgnaagaan gtcctctcta caanaaanaa t
                                                                     521
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       55
<211>
       516
<212>
      DNA
<213>
      Homo sapiens
<220>
<221>
      misc feature
<222>
      (1)..(516)
<223>
      where n may be either a or g or c or t/u, unknown or other
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<400>

55

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ctgcangaag cttttnttnc ttttnggngg agacagagtc ttgctgtgtc ancccaggct
                                                                        60
ggggtgcagt ggnacagtca tagctcactg caaccttgaa ctccctggnt catgcgatcc
                                                                       120
tcccacttca gcctctcaag tagctagaac tacaggtgtg caccaccatg cctgactaac
                                                                       180
ttgtttattn gngggagaga gaacgntctt gctatattgc ctaggctggt cnttgaactc
                                                                       240
ttgggntnca agcaatcete ctacettgge etetneaagg tanttgggat tnataggtgt
                                                                       300
gagccacntg catctggcct caattcactt ttaaaatnca aaattaggtt acctactttt
                                                                       360
tataaggtaa tgtattagaa ttattcttnn naaaaataaa accgatttgg gaaagngtga
                                                                       420
gantcacatt ctgtaaccac cagtggtgaa atgggtcccc gaacaaggta gaacatactc
                                                                       480
ccagccatta accccaggga gngttcaagt ccgtnc
                                                                       516
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       56
<211>
       505
<212>
       DNA
<213>
       Homo sapiens
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<222>
       (1)..(505)
<223>
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ggatcctgtt tcttaaaaca gaaaaaatt tactgatagn acattgttct aagtgtatta
                                                                       60
ttgtattaaa tggatcattt aatttaatct tcataactga cataggagtt gagtaacttg
                                                                      120
tgtggtcaaa tagctagtaa gtgatgagta ggctgggcgc agtggntcaa gcctgtaatc
                                                                      180
ccagcactct gggaggctga ggcaggcaga tcacttgagg tcaggagttt gagaccagcc
                                                                      240
tggccaacat ggnaaaacct cgtctctact aaaaatacaa aaattagctg ggcgtggtgg
                                                                      300
gtgcgcactt gtagtcccag ctactcggaa gggttgaggc aggaggaatc gcttggtccc
                                                                      360
cgggagggag aggttgntng tgnagctgag atcacgccac tngcactcca ggctgggnaa
                                                                      420
caaaagggag acctttnctc aaaaaaaat naaaataaaa agtgatgagt aggattggga
                                                                      480
cccnagacat cttttctcca agacc
                                                                      505
```

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        500
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        DNA
<213>
       Homo sapiens
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<221>
       misc feature
<222>
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<400>
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ctgcagnete aaaceettgt cetgggatea aacaateete ceaceteage etteaaagta
                                                                        60
gatagaacta caggcatgca ctaccatgcc taatttttta aaaaaaaatt tttttcaga
                                                                       120
gatgagatct cactgtgttt cccaggnttg tccggaactc ctggactcaa gcgatcctcc
                                                                       180
caccttgggc tgccaaagtg ttgggattac aggcatgagc caccatgcct ggccatacac
                                                                       240
tttttttttt tttttaanca agacggagtc tngttctgtc gcccagactg gagtgcaggg
                                                                       300
gcgtnnatct tggctcactt gaaagcttcg cctcccaggg ttcatgccgt tctcctgnct
                                                                       360
cagcctccca agtnggtggg actacaggna tctgcaccac gnccggttat ttnttgggtt
                                                                       420
tgnngnaggg acggggtttc accatgttag gcaggatgac ttcggacttc cngacccaag
                                                                       480
atcaccctgc tcggctccca
                                                                       500
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       440
<212>
       DNA
<213>
       Homo sapiens
<220>
<221>
       misc feature
<222>
       (1)...(440)
       where n may be either a or g or c or t/u, unknown or other
<223>
<400>
       58
gaattccaga cgagcctggg caacacagtg agactctatc actacaaaaa aattttaaaa
                                                                       60
ttagctaaag ttgatggnac atgcctgcag tcccagctac tcaggaggct ggggcaggaa
                                                                      120
gatagettga geetgggagt tagaggetgt gtgagetatg atcacactae tgeacteeag
                                                                      180
```

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```
cctgggcaac acagcaagac cctaaaacta aaaaagaaaa gaaaaaaaaa atatatgtac
                                                                      240
gtntttgggg aatttcaaag tgggagataa atcatttttc cagacagtnt cttgaaaccc
                                                                      300
aaagtttatg cttaaataaa ggtgtgcttt ctttcacctt caaangcggg agaaggatca
                                                                      360
tcatncacac acacactn atcatncaca tttttacaaa tncaattnnn naatacaaca
                                                                      420
cattttaaca tggggttttg
                                                                      440
<210>
       59
<211>
       513
<212>
       DNA
<213> Homo sapiens
<220>
<221>
      misc feature
<222>
       (1)..(513)
<223>
       where n may be either a or g or c or t/u, unknown or other
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       59
ggatcctgtt tcttaaaaca gaaaaaaatt tactgatagn acattgttct aagtgtatta
                                                                       60
ttgtattaaa tggatcattt aatttaatct tcataactga cataggagtt gagtaacttg
                                                                      120
tgtggtcaaa tagctagtaa gtgatgagta ggctgggcgc agtggctcaa gcctgtaatc
                                                                      180
ccagcactct gggaggctga ggcaggcaga tcacttgagg tcaggagttt gagaccagcc
                                                                      240
tggccaacat ggnaaaacct cgtctctact aaaaatacaa aaattagctg ggcgtggtgg
                                                                      300
ntgcgcactt gtagtcccag ctactcggaa ggctngaggc aggaggaatc gcttgatccc
                                                                      360
ngggaggag aggttggtng tgangctgag atcacgncac ttgnactcca gnctgggnaa
                                                                      420
caaangngag atcttntctc aaaaaaaaat aaaantaaaa ngtgatgagt aggatttgga
                                                                      480
ccccagacat cctntctcca qqacctqqna ttc
                                                                      513
```

<sup>&</sup>lt;210> 60

<sup>&</sup>lt;211> 390

<sup>&</sup>lt;212> DNA

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;220>

```
<221>
       misc feature
<222>
       (1)..(390)
<223>
       where n may be either a or g or c or t/u, unknown or other
<400>
       60
gaatteetgg netcaagtga teeteteace teageeteee aaattgetgg gattagagtg
                                                                       60
tgagccactg tgcctagcct gcatatatct atttttaatg actgctaaat ctcattgtat
                                                                      120
gaaaatttat gtcctagcta taaaatttgn tagcacatgt ttaatttttt ctaatttcag
                                                                      180
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nntcctcttc gtactcattt ttatagttat ggcctgtgca actggtttcc catttatatg
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                                                                      120
catctcttta tcttgattta gagaaaatgg taacgtgtac atcccataac tcttcagtaa
                                                                      180
atcattaatt agctatagta actttttcat ttgaagattt cggctgggca tggtagctca
                                                                      240
tgcctgtaat cttagcactt tgggaggctg aggcgggcag atcacctaag cccagagttc
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aagaccagcc tgggcaacat ggcaaaacct cgtatctaca gaaaatacaa aaattngncg
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                                                                      366
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cctttccagt gaatggaaat cattcccacc acaccaaaat tccagatcag gagtgnaaca
                                                                      120
gtaatgtagt ccacagcaac gttataggtt ttaaacactt ccctgaaaaa aaattacaca
                                                                      180
gattttaaaa gatgtacaat aatttccacc aaaacattat ttagaataat gtgatggctc
                                                                      240
ccaaacatta gatattaatn tcccaccttt ataattttac cataacctat atcaactqtq
                                                                      300
ctattattta tttaatnett ecetntaaat taatttaete tttttttgtt tttgttttg
                                                                      360
ngtttggagc cagtgtctca ttttggttgc ccaggcttgg agtaaagtgg gtgcaatcac
                                                                      420
ggctcaactg nagtctttnc ctccnggaga tcaggtnggt cttccccagg tccaanctcc
                                                                      480
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gacctttcca gtgaatggaa atcattccca ccacaccaaa attccaqatc aqqaqtqaaa
                                                                      120
cagtaatgta gtccacagca acgttatagg ttttaaacac ttccctgaaa aaaaattaca
                                                                      180
cagattttaa aagatgtaca ataatttcca ccaaaacatt atttagaata atgtgatggc
                                                                      240
                                  Page 49
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tcccaaacat tagatattaa tntcccacct ttataatttt accataacct atatcaactg
                                                                      300
tgctattatt tatttaatnc ttccctctaa attaatttac tctttttttg tttttgtttt
                                                                     360
tgtgtttgga gccagtgtct cattttggtt gcccaggctt ggagtaaagt gggtgcaatc
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acggctcaac tgnagtcttt acctcccqqa qatcanqttq qtctttccc
                                                                     469
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       370
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                                                                     120
ttcctcatct ctttatcttg atttagagaa aatggtaacg tgtacatccc ataactcttc
                                                                     180
agtaaatcat taattagcta tagtaacttt ttcatttgaa gatttcggct gggcatggta
                                                                     240
gctcatgcct gtaatcttag cactttggga ggctgaggcg ggcagatcac ctaagcccag
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                                                                      180
acttcctatc tcatcccgna actaagagta cctaacctcc tgnaaattga agnccagnag
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                                                                      300
cctgacacaa ggattt
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       448
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       Homo sapiens
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<222>
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                                                                      120
catttttaan gtgggggagg tgaatgcttc ccagaatggg tttatatcac ttgcttgngg
                                                                      180
gccttctgag tgttggnaac aacctgtcat catcacacat acctgtcatc tttaatggtc
                                                                      240
tccatacatt actaatagat tatacagatg gccatcactt aacacttcca ctcactcaat
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ttgtncaaca tgcaaggtta ccctctttt tngcttacng ccacaaagca ttgganaagg
                                                                      360
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                                                                      120
attettteet tttetaaett tggtggatta aatteetgte ateceeetee tettggtgtt
                                                                      180
atataaaag tnttggtgcc gcaaaagaag tagcactcga atataaaatt ttccttttaa
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ttctcagcaa ggnaagttac ttctatatag aagggtgcac ccntacagat ggaacaatgg
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caagcgcaca tttgggacaa gggagggaa agggttctta tccctgacac acgtggtccc
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ngctgntgtg tnctnccccc actgantagg gttagactgg acaggcttaa actaattcca
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                                                                      120
tttacttctg actcccttat atttaggatg gctatgagaa caagtaaggg caatgacttc
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                                                                       300
ctgaagtaag ctagaggtta gaagctaaag aaqaaagaag gagattgagt ccttggatga
                                                                      360
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                                                                       120
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ggggcatgac ttaqctqqaq aqcccatcct ctqtqatqqt caqqaqcaqt tqaqaqaqcq
                                                                       240
                                                                       300
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tatggtatta ctggataggg ctgaaqttat gctgaattga acacataaat tcttttccac
                                                                       360
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gagagcatct aagacagnag gtgaagggga ggggttagan ctagagggat tgaagaatat
                                                                      180
tatccatata ggttagggtt aggtgtggca acgttttata gaacaaacat tggnaagcta
                                                                      240
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                                                                      300
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                                                                      120
aatagtgctt tttcnttttt ttttttntt ttttttnntt ttnggggana gagtctcgct
                                                                      180
ctgtcgccag gttggagtgc aatggtgcga tcttggctca ctgaaagctc caccncccgg
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gttcaagtga ttctcctgcc tcagccnccc aagtagntgg gactacaggg gtgcgccacc
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acgcctggga taattttggg ntttttagta gagatggcgt ttcaccanct tggngcaggc
                                                                      360
tggtcttgga actcctgana tcatgatctg cctgccttag cctccccaaa gtgctgggat
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tncaggggtg agccactgtt cctgggcctc
                                                                      450
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<sup>&</sup>lt;211> 489

<sup>&</sup>lt;212> DNA

<sup>&</sup>lt;213> Homo sapiens

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aaataaataa tagcacagtt gatataggtt atggtaaaat tataaaggtg ggatattaat
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                                                                      360
ttcactggaa aggtccactt cgactccagc aggcatatct cattatgatt agtgccctca
                                                                      420
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                                                                       120
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ttgccatgtt gcccaggctg gtcttgaact ctgggcttag gtgatctgcc cgcctcagcc
                                                                       180
                                                                       240
teccaaagtg etaagattae aggeatgage taccatgeee ageegaaate tteaaatgaa
                                                                       300
aaaqttacta taqctaatta atgatttact gaagagttat gggatgtaca cgttaccatt
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ttctctaaat caagataaag agatgaggaa agaaaacact ccagtggggc attcctgtga
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                                                                      120
atcagggaca gcttcaagga tcgctcgcgg ctcttaccag cctaacttcg atcattggac
                                                                      180
cgctgatcgt cacggcgatt tatcccgcct cggcgagcac atggaacggg ttggcatgga
                                                                      240
ttgtaggege egecetatae ettgtetgee teeceegegt tgegtegegg tgeatggage
                                                                      300
cggnccacct cgacctgaat ggaanccggc ggcacctcgc taacggattc accactccaa
                                                                      360
gaattggagc caatcaattc ttgcggagaa ctgtgaatgc ncaaaccaac ccttggcaga
                                                                      420
acatatccat cgcgtccgcc atctccanca gccgcacgcg gcgcatctcg ggcagcgttg
                                                                      480
ggtcctgcag
                                                                      490
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<222>
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<223>
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77
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                                                                      180
ctagaaagtc tncacccggc caagataaca catctttagg taaaaatagc aagaaatatt
                                                                      240
ttatgggttg tttacttaaa tcatagtttt caggttgggc acagtggntc atgcctgtaa
                                                                      300
tcccagcact ttatgcggct gaggcaggca gatcagttga ggtcagaagt ttgagaccag
                                                                      360
cctgggcaat gtggcaaaac ctcatctcca ctaaaaatac aaaaattagc caggcatggt
                                                                      420
ggtgcacaca tgttaattcc cagctacttg ggaggnttga gacaggaggg tcgcttggnc
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aaaaatgttt tgtcttctag agataagtta atttttagtt ttcttcctcc tcactgtgga
                                                                      240
                                                                      300
acattcaaaa aatacaaaaa ggaagccagg tgcatgtgta atgccaggct cagaggctga
                                                                      360
ggcaggagga tcgcttgggc ccaggagttc acaagcagct tgggcaacgt agcaagaccc
                                                                      420
tgcctctatt aaagaaaaca aaaaacaaat attggaagta ttttatatgc atggaatcta
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tatgtcatga aaaaattagt gtaaa
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<210> 79 <211> 496

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tggggtatag attctacaat aaaacaaaca caaaagccct aggtcagtgt taatggagat
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| tgtngcccgt atgactttcc             | tgtcccatcg gaaaccagag tttccccagg tgagcccttc | 180 |
| ctatctgngg ntacatgatt             | tagctaattt aacaagaaga gagtaattcc ttnggattat | 240 |
| tatcaacatg aaacttggac             | tatgtctcta taagggtgaa cactgatttt tttttcttt  | 300 |
| ttagaaacaa aaaccatcca             | cttattaatc caaactacgg gattggattt acaacaatca | 360 |
| tcgcatnaac tgaacatacg             | aagttaccac tcaagggaat nacagaagaa cgttgnacaa | 420 |
| tntntcttac ggggtacgng             | aattcaaaca atgtggggan aggaacttca ntctacaaan | 480 |
| tctgaccatc gnttcagtat             |   | 500 |
|                                   | either a or g or c or t/u, unknown or other |     |
| <400> 83<br>gaatteettt actettettt | aattctaccg tctttgggca tacatctcat ttgntgtgga | 60  |
| agaaggtctg acagnagggc             | tgacagcacc gattcataac acattctttt catcatacaa | 120 |
| agagtaagac cctagaataa             | tgggaccatc tgctaccacg acagagctgc cttactggct | 180 |
| gtagaaaaag actgcttgtg             | tgggagagaa gaatgaggac agaggaggca tctggggcaa | 240 |
| gtgagcgtac aagtatntct             | acaaattcag aatttggtgg aaaatccaaa tttgncttca | 300 |
| acatgataga gaattgatga             | gaaaatagct gtnctgtttc caaaatttac tgaatttggg | 360 |
| aacctgaggt taaaactttt             | aggatnaagc aactcaggtt caagacttng nctngggaag | 420 |
| gaatggaaac acagacggga             | atgagtntca                                  | 450 |

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       84
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       450
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       where n may be either a or g or c or t/u, unknown or other
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ctqcttcttc tcacatqana aaaactaqcc cccaqtntqa tccgcaggtn gaggaatncc
                                                                      180
cogggtogag gttoggatoc tggatgacag accetotoge coetgaaggn gataacoggg
                                                                      240
                                                                      300
tgtggtacat ggacggntat cacaacaacc gcttcgnacg tgagtacaag tccatggttg
actteatqaa cacqqacaat tteaceteee accqteteee ceacecetgg tegggeacgg
                                                                      360
ggnaggtggt ctncaacggt tctttctnct tcaacaagtt ccagagccac atcatcatca
                                                                      420
                                                                      450
ggtttggacc tgaaganaga gaacatcctc
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       85
       500
<211>
<212>
       DNA
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       Homo sapiens
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       where n may be either a or g or c or t/u, unknown or other
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                                                                       60
aactgtcatg gtgttggcgg ggagtgtctt ttagcatgct aatgtattat aattagcgta
                                                                      120
tagtgagcag tgaggataac cagaggtcac tctcctcacc atcttggttt tggtgggttt
                                                                      180
                                                                      240
tggccagett etttattgca accagtttta teageaagat etttatgage tgtatettgt
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gctgacttcc tatctcatcc cqtaactaag aqtacctaac ctcctgcaaa tnqcagccca
                                                                      300
gtaggtettg gnettatttt acceaquece tatteaaqat agagttgete ntqgteeaaa
                                                                      360
                                                                      420
cgcctctgac acaaggattt taaagtctta ttaattaagg taagataggt ccttggatat
                                                                      480
gtggtctgaa atcacagaaa gctgaatttg qaaaaaggtg cttggagctg cagccagtaa
                                                                      500
acaagttttc atgcaggtgt
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                                                                      120
                                                                      180
atgtttattt ttcagttaca actttttttg ttttctgctt ttatttgttg agacaatggc
                                                                      240
ctaaaaaggc attgaaatnc caaaataaca taaattatca ctaaatcttg ataactaatc
                                                                      300
ataatatata tattttacac taattttttc atgacatata gattccatgc atataaaata
cttccaatat ttqttttttq ttttctttaa taqaqqcaqq qtcttqctac qttqcccaaq
                                                                      360
ctgcttgtga actcctgggc ccaagcgatc ctcctgcctc agcctctgag cctggcatta
                                                                      420
cacatgcacc tggcttcctt tttgtntttt ttgaatgttc cacagtgagg aggaagaaaa
                                                                      480
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misc feature

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atgctcnttg gccctgtgan to
                                                                      502
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       89
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      499
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                                                                      120
cttcaaggtg atgatgacat gctgtaaaga aaagccacac tgggtttgag aataataaaa
                                                                      180
caaaactcat acgtacaget geceateett eegggtataa aagetgaetg aettaatggt
                                                                      240
                                                                      300
agecaegaee aceaecatge agagagteae agggaeaaag ageatgatea eatgettgge
gneatattte aatgteagnt ceteatette tteeteatet tgnteeacea eetgeeggga
                                                                      360
gttaccntgg gtcgtccatt agataatggg tcagggtggc caaggctccg tctgtcgttg
                                                                      420
tgctcctgcc gttctctatt gtcattctat aagcacaaga aaaacatttn cagtaaatca
                                                                      480
                                                                      499
gatnctcagc agaatcaag
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taactcccag gntcaagatn tctncctgcg ttagcctcct gagtagctgg gactataggt
                                                                       60
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| atgtgccact | attcctgaaa | acataatcag | ttttgaaggt | agtgtctggg | ctgggcgcag | 120 |
|------------|------------|------------|------------|------------|------------|-----|
| tggntcacgc | cttcaatccc | agcactttgg | gaggncgagg | tgggcggatc | acctgaggtc | 180 |
| aggagttcga | gaccagcctg | accaacatgg | gataagactc | catctctact | aaaaatacaa | 240 |
| aaaattagcc | aggcatggtg | gngcatgcct | gtaatcccag | ctactcagga | ggntgaggna | 300 |
| ggagaattgg | ttggaaccta | ggaagcagag | gctgtggtgg | agccgagatc | gcaccattgg | 360 |
| actccaggct | gggnaacaag | agtgaaaatc | cntcttaaaa | aaaaaaaaa  | aaaggtagng | 420 |
| ttttgnccgg | ngcggggggt | cacgcctgta | atcccagnat | tgggganggc | aaggnggggg | 480 |
| gtcannangn | nagnagtccg | _          |            |            |            | 500 |

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<211> 502

<212> DNA

<213> Homo sapiens

<220>

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<210> 92

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      Homo sapiens
<213>
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       92
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                                                                       60
                                                                      120
tgttctcata gccatcctaa atataaggga gtcagaagta aagtctggnt ggctgggaat
                                                                      180
attggcacct ggaataaaaa tgtttttctg tgaatgagaa acaaggggaa gatggatatg
                                                                      240
tgacattatc ttaagacaac tccagttgca attactctgc agatgagagg cactaattat
aaqccatatt acctttcttc tqacaaccac ttgtcagccc acgtggtttc tgtggcagaa
                                                                      300
tctggttcta taacaagttc ctaataagct gtagccaaaa aaatttgatg aggtattata
                                                                      360
                                                                      420
attatttcaa tataaaqcac ccactaqatq qaqccaqtgt ctgcttcaca tgttaagtcc
ttettteeat atqttaqaea tttetttqaa qeaattttaq aqtqtagetg ttteteaggt
                                                                      480
                                                                      495
taaaattctt agtag
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                                                                       60
cttctagaga taagttaatt tttagttttc ttcctcctca ctgtggaaca ttcaaaaaaat
                                                                      120
acaaaaagga agccaggtgc atgtgtaatg ccaggctcag aggctgaggc aggaggatcg
                                                                      180
cttgggccca ggagttcaca agcagcttgg gcaacgtagc aagaccctgc ctctattaaa
                                                                      240
                                  Page 67
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<211>

495

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<400> 95
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                                                                      60
gatttttttt ttctttnngg agacagggtc tcactttgtc gcccagactg qagtqcaqtq
                                                                      120
gcacgatete ageteaceae ancetetgee teetgggtte aagnanttet egtgettang
                                                                      180
cctcctgagt aggtggaacc acgcgtgtqc qccaccacqc taqqctactt tntqtatttt
                                                                      240
tagtagagac agggtttcgc cathttgccc aggctgntct caaattcctg accencaagt
                                                                      300
gatececeen cetteagtae tececateag
                                                                      330
<210>
       96
<211>
      382
<212>
      DNA
<213>
      Homo sapiens
<220>
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      misc feature
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<223>
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                                                                       60
aatgaaangt ctcccatgtc tacttctttc tacacagaca cggcatccat ccgtttttct
                                                                      120
cantetttee necacettte eegtetttet atteeacaaa geegneattg teateetgge
                                                                      180
conticticaa tgagctgttg nntacacctc ccagacggcg tggtggncgg tcagaggggc
                                                                      240
tecteactic ceagtagggg tggeegngea ggnggtgeee encaeceee gggegggtg
                                                                      300
gttngtccnn ccggngggnt gcaccncccc cacccctccc cnctctncta ctqqcqqtcq
                                                                      360
tntattncan natctttaag ca
                                                                      382
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       97
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      360
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      Homo sapiens
<213>
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<220> <221>

misc feature

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<222>
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                                                                   60
ggtcaaggga gaccaacaca tggtaaaggt caagggcttc ttggaaggca gtcagcagcc
                                                                  120
tgtgcaagat gttctccaca ctgctcagnt taaggggagc tgggggcagg acctcagctg
                                                                  180
gnatctctgc ttcaccagtg tccaggggtt gcacaattct tgtttactcg taggatattt
                                                                  240
aatcttggnn ggtgctatca taaatgggac ttatccnctn attatgtttt cttactagtt
                                                                  300
gtttatgtga aggttattga tttgggtttc actttatttn gtggnaatgg agtttcactc
                                                                  360
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       98
<211>
       208
<212>
       DNA
<213>
       Homo sapiens
<220>
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<222>
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<223>
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aatgtcacgg attcctttag gtagntacac ccatcaacct ttttgagaat aaaatgaatt
                                                                   60
gagagtgtta cagtctaatt ctatatcaca tgtaactttt atttqqatat atcaqtaata
                                                                  120
180
cgccaggttg gagtgnaatg gtgcgatc
                                                                  208
<210>
       99
<211>
       470
<212>
       DNA
<213>
       Homo sapiens
<220>
<221>
       misc feature
<222>
       (1)..(470)
<223>
       where n may be either a or g or c or t/u, unknown or other
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| <400> 99 aacaaggttt ctcggtcggc ggtgaatata ccggggcgtc gatatttgtt gcggaatact   | 60         |
|--|------------|
| cccctgaccg taaacgtggc tttatgggca gctggctgga cttcggttct attgccgggt  | 120        |
| ttgtgctggg tgcgggcgtg gtggtgttaa tttcgaccat tgtcggcgaa gcgaacttcc  | 180        |
| tcgattgggg ctggcgtatt ccgttcttta tcgctctgcc gttagggatt atcgggcttt  | 240        |
| acctgcgcca tgcgctggaa gagactccgg cgttccagca gnatgtcgat aaactggaac  | 300        |
| agggcgaccg tgaaggtttg gaggatggcc cgaaagtctc gtttaaagag attggcacta  | 360        |
| aatactggng cagnetgttg aatgtttggg ettggtaatt ggcaaccaac gtgattacta  | 420        |
| natgttggtg acctatattg ccgagttatt ggcggataac ctgaattatc   | 470        |
| <pre>&lt;210&gt; 100 &lt;211&gt; 440 &lt;212&gt; DNA &lt;213&gt; Homo sapiens </pre> <pre>&lt;220&gt; &lt;221&gt; misc_feature &lt;222&gt; (1)(440) &lt;223&gt; where n may be either a or g or c or t/u, unknown or other</pre> |            |
| <400> 100 taattatatt gaaatgette tentetaggt catecatgne tggnttatta tateatetet  | 60         |
| attgntgntg ctctttttta catncattta cttggggtaa gttgtgaaat ttggggtctg  | 120        |
| tctttcagaa ttaactacct nngtgctgtg tagctatcat ttaaagccat gtactttgnt  | 180        |
| gatgaattac tetgaagttt taattgtnte cacatatagg teatacttgg tatataaaag  | 240        |
| actagncagt attactaatt gagacattct tctgtngctc ctngcttata ataagtagaa  | 300        |
|  |            |
| ctgaaagnaa cttaagacta cagttaattc taagcctttg gggaaggatt atatagcctt  | 360        |
| ctgaaagnaa cttaagacta cagttaattc taagcctttg gggaaggatt atatagcctt ctagtaggaa gtcttgtgcn atcagaatgt ttntaaagaa agggtntcaa ggaatngtat  | 360<br>420 |

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       449
<212>
       DNA
<213>
       Homo sapiens
<220>
<221>
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<222>
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<223>
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                                                                      120
atgtgttctc ctccaggcca agctgtctaa ggaccgcaaa ggctgttgtc acttgcaggc
                                                                      180
tcccagatta ggtctgaaat aggatttcac caggtcatcc attgttagtt aaatcctagt
                                                                      240
aaattcattt anaccaatca aatacttata agaccaattt gtaaaccagg aatgtattaa
                                                                      300
tttgtcacga ctttcaacta actgacaaat ttactataag ctcaaggtag gactctttag
                                                                      360
caataagtag gaaccgcctg agacaaccaa acattttcaa cccacaaang atactttaat
                                                                      420
gactttctga tttnccagca aaagggggg
                                                                      449
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                                                                       60
gcttttttt tttttttt tggnggagac agagtcttac tctgttgccc aagctggagt
                                                                      120
gcagtggtgc aatcttggtt cactgnaacc tccacctcca gagttcaagc aattctctgc
                                                                      180
ctcagtttct ggagtagctg ggattacagg tgcctgccat cacgcctggc taaatttggn
                                                                      240
attttttttt agtagagaca gggtttcacc atgttggcca ggctggtctt gaactcctga
                                                                      300
                                  Page 72
```

```
ccttgtgatc caccagectc ggcctcccaa attgntggga ttacaggcgt gagccaccac
                                                                      360
aaccaggcta aagttttaaa acatgccaag tgtatttaca taatgcgata cganttatgt
                                                                      420
acata
                                                                      425
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       103
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      Homo sapiens
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                                                                       60
gctgagtctg cgatttcttg ccagctctac ccagttgtgt catcttaagc aagtcactga
                                                                      120
acttetetgg attecettet cetnttgtaa aataageatg ttatetgtee nneetgeett
                                                                      180
gggcattgtg ataaggataa gatgacatta tagaatntng caaaattaaa agcgctagac
                                                                      240
aaatgatttt atgaaaatat aaagattagn ttgagtttgg gccagcatag aaaaaggaat
                                                                      300
gttgagaaca ttccnttaag gattactcaa gctccctttg gtgtatatca gnngtcanna
                                                                      360
cntatcttng gggctgaaaa atqttt
                                                                      386
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       104
<211>
      224
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<220>
<221>
      misc feature
<222>
       (1)...(224)
<223>
      where n may be either a or g or c or t/u, unknown or other
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      104
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60

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120
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tgtctaagga ccgcaaaggc tgttgtcact tgcaggctcc caqattaggt ctgaaatagg
                                                                      180
atttcaccag gtcatccatt gttagttaaa tcctagtaaa tnca
                                                                      224
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       440
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<400>
       105
                                                                       60
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                                                                      120
getttttttt ttttttttt tggnggagae agagtettae tetgttgeee aagetggagt
gcagtggtgc aatcttggtt cactgcaacc tccacctcca gagttcaagc aattctctgc
                                                                      180
ctcagtttct ggagtagctg ggattacagg tgcctgccat cacgcctggn taaatttggg
                                                                      240
attttttttt agtagagaca gggtttcanc atgttggcca ggntggtctt ggactcctga
                                                                      300
                                                                      360
cctggtgaac caccaggete gggetecaaa tttggttggg attacagggg gtnaancaac
                                                                      420
cacaacccag nctaaagttt tnaaaacatn caaagtgttt taaaatnatg ngatacgatt
                                                                      440
tattgtacaa ttaattttat
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       448
<212>
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       misc feature
<222>
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<223>
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                                                                       60
```

```
gaaagcattg teagetette caateteeat cacetttggg ettgttttet aetttgeeae
                                                                      120
agattatett gtacageett ttatggaeca attageatte cateaatttt atatetagea
                                                                      180
tatttgcggn tagaatccca tggatgtttc ttctttgact ataacaaaat ctggggagga
                                                                      240
caaaggtgat tttcctgtgt ccacatctaa caaagtcaag atccccggct ggacttttgg
                                                                      300
aggttccttc caagtcttcc tgaccacctt gcactattqg actttqqnaa qqaqqtqcct
                                                                      360
atagaaaacg attttggaac atacttcatc gcagggggac tgtgtccccc ggtggcagaa
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ggatecgece geettggeet eccaaagtge tgggattaea ggeatgagee accgeteetg
                                                                       60
gctgagtctg cgatttcttg ccagctctac ccagttgtgt catcttaagc aagtcactga
                                                                      120
acttototgg attocottot cottnagtaa aataagnatg ttatotgnoo goodtgootn
                                                                      180
ggnnattgng ataaggat
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<400>

108

| ctgcagtgag ccgtgattgc accactttac tccagcctgg gcaacaaaat gagaccctgg   | 60                              |
|---|---------------------------------|
| ctcaaaaaca aaaacaaaaa caaaaaaaga gtaaattaat ttaaagggaa gtattaaata   | 120                             |
| aataatagca cagttgatat aggttatggt aaaattataa aggtgggata ttaatatcta   | 180                             |
| atgtttggga gccatcacat tattctaaat aatgtnttgg tgaaaattat tgtacatctt   | 240                             |
| ttaaaatctg tgtaattttt tttcagggaa gtgtttaaaa cctataacgt tgctgtggac   | 300                             |
| tacattactg ttgcactcct gatctggaat tttgggtgtg gtgggaatga tttccattca   | 360                             |
| ctggaaaggt ccacttcgac tccagcaggc atatctcatt atgattagtg cctcatggnc   | 420                             |
| ctggtgttta tcaaagtacc tccctgaatg gactgcgtgg gtcatcttgg ntgtgattca   | 480                             |
| gtatatggta aaacccaaga   | 500                             |
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| <221> misc_feature<br><222> (1)(500)  | 60                              |
| <pre>&lt;221&gt; misc_feature &lt;222&gt; (1)(500) &lt;223&gt; where n may be either a or g or c or t/u, unknown or other &lt;400&gt; 109</pre>   | 60<br>120                       |
| <pre>&lt;221&gt; misc_feature &lt;222&gt; (1)(500) &lt;223&gt; where n may be either a or g or c or t/u, unknown or other &lt;400&gt; 109 ctgcagcctt gacctcctgg gatcaatcga tcctcccacc tcagcctcct aagtagctgg</pre>   |                                 |
| <pre>&lt;221&gt; misc_feature &lt;222&gt; (1)(500) &lt;223&gt; where n may be either a or g or c or t/u, unknown or other  &lt;400&gt; 109 ctgcagcett gacctcetgg gatcaatcga tecteceaee teageeteet aagtagetgg aactacaggt gtgcaccace atgccegget aatngntgta ttttetgtag atacgaggtn</pre>  | 120                             |
| <pre>&lt;221&gt; misc_feature &lt;222&gt; (1)(500) &lt;223&gt; where n may be either a or g or c or t/u, unknown or other  &lt;400&gt; 109 ctgcagcctt gacctcctgg gatcaatcga tcctcccacc tcagcctcct aagtagctgg aactacaggt gtgcaccacc atgcccggct aatngntgta ttttctgtag atacgaggtn tngccatgtt gcccaggctg gtcttgaact ctgggcttag gtgatctgcc cgcctcagcc</pre>  | 120<br>180                      |
| <pre>&lt;221&gt; misc_feature &lt;222&gt; (1)(500) &lt;223&gt; where n may be either a or g or c or t/u, unknown or other  &lt;400&gt; 109 ctgcagcett gacetectgg gateaatega tecteccace teageeteet aagtagetgg aactacaggt gtgcaccace atgcccgget aatngntgta ttttetgtag atacgaggtn tngccatgtt geceaggetg gtettgaact etgggettag gtgatetgee egeeteagee teccaaagtg etaagattae aggeatgage taccatgeee ageegaaate tteaaatgaa</pre>  | 120<br>180<br>240               |
| <pre>&lt;221&gt; misc_feature &lt;222&gt; (1)(500) &lt;223&gt; where n may be either a or g or c or t/u, unknown or other  &lt;400&gt; 109 ctgcagcett gacctcctgg gatcaatcga tecteccace teageetect aagtagetgg aactacaggt gtgcaccace atgcccgget aatngntgta ttttctgtag atacgaggtn tngccatgtt geccaggetg gtettgaact etgggettag gtgatetgee egecteagee teccaaagtg etaagattae aggcatgage taccatgeee agecgaaate tteaaatgaa aaagttacta tagetaatta atgatttaet gaagagttat gggatgtaea egttaecatt</pre>  | 120<br>180<br>240<br>300        |
| <pre>&lt;221&gt; misc_feature &lt;222&gt; (1)(500) &lt;223&gt; where n may be either a or g or c or t/u, unknown or other </pre> <pre>&lt;400&gt; 109 ctgcagcctt gacctcctgg gatcaatcga tcctcccacc tcagcctcct aagtagctgg aactacaggt gtgcaccacc atgcccggct aatngntgta ttttctgtag atacgaggtn tngccatgtt gcccaggctg gtcttgaact ctgggcttag gtgatctgcc cgcctcagcc tcccaaagtg ctaagattac aggcatgagc taccatgccc agccgaaatc ttcaaatgaa aaagttacta tagctaatta atgatttact gaagagttat gggatgtaca cgttaccatt ttctctaaat caagataaag agatgaggaa agaaaacact ccagtggggc attcctgtna</pre> | 120<br>180<br>240<br>300<br>360 |

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       241
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                                                                     120
ttctgtttta accccaggtg ggttaaatat tccagctatc tgaggagctt ttngataatt
                                                                     180
ggacctcacc ttagtagttc tctaccctgg ccacacatta gaatcacttg qqaqctttta
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a
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ggtcactctt nggtatgatt tcacaattca aaactatcac tqccctactc aaccccacaa
                                                                     120
tgaatgagag aagtcagtaa atgatataca aaattaggct tcagctgtgt ttnctttctt
                                                                     180
tnggggtttn ctacaatagg agtnccagat tctatgtgac tgactctgga gtcttaactg
                                                                     240
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                                                                     241
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<211> 241
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                                                                      60
cggtggcggn cgntctagaa ctagtggatc ccccgqqntg caggacccaa cqctqcccqa
                                                                     120
gatgcgccgc gtgcggttgc tggagatgqc qqacqcqatq qatatqttct qccaaqqqtt
                                                                     180
ggtttgcgca ttcacagttc tccgcaagaa ttgattggct ccaattcttg gagtqqtgaa
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t
                                                                     241
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                                                                     120
tgtttaaaaa ataaaataaa ctaaaagttt atttatgagg agtacactgc tttcttgtaa
                                                                     180
acacatgtac aagccatata atagagttca ttttttaccc tagttacgga aacactagaa
                                                                     240
а
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atatttttn ttgtgacccc ttttaaaagg gacccnctaa aaaattttnt ggttnntttn
                                                                     120
                                                                     180
gatttangtg ggtgnttttn ttatattttt ggngagnntc tgtagtcntc nccctcaaac
                                                                     240
anntentaen atnggnaneg tgaetetgte nttngtnann ntegntnten ngtnattena
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g
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                                                                       60
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                                                                      120
ctagnaacta gtggatcccc cgggctgcag gaattcacgg actaatcctc tacagatctt
                                                                      180
gctggagtgg cctttcagcc ttttgtgact gtttgtagtg aaatgtacac acaagcctac
                                                                      240
aaggcagccc agatgtacca taactgtggg aaaattaaaa aaaaaaaaac acagaacctc
                                                                      241
t
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<222>

(1)..(780)

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gctgggtacc gggcccccc tcgaggtcga cggtatcgat aagcttgata tcgaattcca
                                                                     120
actcctcact tgccagatgt gaccttaagc aagtgaactt ctgtqtqcca cactqttttc
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                                                                      60
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                                                                     120
gctttngtgt gtaaaaagta ttagaatctc atgtttttga acaaggttgg cagtgggttg
                                                                     180
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                                                                      60
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                                  Page 80
```

```
tgggtaccgg gcccccctc gaggtcgacg gtatcgataa gcttccctcc ccttcctcag
                                                                     120
ctctggcgac cctgcgctgt ggtggttctc caaccacact cattctcctc agctggctcc
                                                                     180
ttgctcttct tccacccct cgttggaagt gttcctaagt gtttggcttg gcctcctctt
                                                                     240
С
                                                                     241
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       241
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cttgtccagg ggcgacgagc attctgggcg aagtccgcac gcctcttgtt cgaqqcqqaa
                                                                     120
gacggggtct gatgctttct ccttggtcgg gactgtctcg aggcatgcat gtccagtgac
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tcttgtgttt gctgctgctt ccctctcaga ttcttctcac cgttgtggtc agctctgctt
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t
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                                                                      60
gcagggnccg gncctttgtg gccgcccggg ccgcgaagcc ggtgtcctaa aaqatqaqqq
                                                                     120
```

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geggggegeg gneggttggg getggggaac eeegtgtggg aaaccaggag gggeggeeeg
                                                                      180
tttctcgggc ttcgggcgcg gccgggtgga gagagattcc ggggagcctt ggtccggaaa
                                                                      240
t
                                                                      241
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tcgaggtcga cggtatcgat aagcttgata tcgaattcct gcagcccggg ggatccgcc
                                                                      120
egeggeetee caaagtgetg ggattacagg egtgageeae egeeeegggn etcacatttt
                                                                      180
atttctattg gctagcgctg ctctaaatct tctgttcctt ctgctacacc aggcctaaca
                                                                      240
                                                                      241
С
<210>
       122
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       440
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      DNA
<213>
      Homo sapiens
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<221>
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agagtgttac agtctaattc tatatcacat gtaactttta tttggatata tcagtaatag
                                                                      120
                                                                      180
tgctttttcn tttttttt ttntttttt tnnttttngg gganagagtc tcgctctgtc
                                                                      240
gccaggttgg agtgcaatgg tgcgatcttg gctcactgaa agctccaccn cccgggttca
```

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aqtqattete etqeeteaqe enceeaaqta qntqqqaeta caqqqqtgeg ceaceaegee
                                                                     300
tgggataatt ttgggntttt tagtagagat ggcgtttcac cancttggng caggctggtc
                                                                     360
ttqqaactcc tqanatcatq atctqcctqc cttaqcctcc ccaaaqtgct gggattncag
                                                                     420
                                                                     440
gggtgagcca ctgttcctgg
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                                                                     120
tgggttaaat attccagcta tctgaggagc ttttngataa ttggacctca ccttagtagt
                                                                     180
tctctaccct ggccacacat tagaatcact tgggagcttt taaaactgta agctctgccc
                                                                     240
                                                                     300
tgagatattc ttactcaatt taattgtgta gtttttaaaa ttccccagga aattctggta
tttctgttta ggaaccgctg cctcaagcct agcagnacag atatgtagga aattagctct
                                                                     360
gtaaggttgg tcttacaggg gataaacaga tccttcctta gnccctggga cttaatcact
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gagagtttgg gtggnggttt ngnatttaat gac
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      misc feature
<222>
      (1)..(369)
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where n may be either a or g or c or t/u, unknown or other

<223>

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|---|---------------------|-----------------------|-----|
| gtttttaaca tagttaactg aa  | tatttccc ttggggggtt | aaattttaga acagacgtnc | 120 |
| atncaatctg gaagaagagc ta  | tgaaaaaa acctagcttg | ggtnggtttc atagggtnca | 180 |
| ttatgnacac attgttattt ta  | tcccttaa tnctagtaaa | gaaatagaat ctgaaaataa | 240 |
| gtaaaactac ttggaaaaaa nt  | taaaagat acagaaattt | ctatcttaaa tgatgtgtgg | 300 |
| gccnctgtga ttttagtngg gn  | tggttaaa ancccagagg | tgaagagnat nctctatgct | 360 |
| gtgnggggg   |                     |                       | 369 |
| <210> 125 <211> 516 <212> DNA <213> Homo sapiens  <220> <221> misc_feature <222> (1)(516) <223> where n may be ei | ther a or g or c or | t/u, unknown or other |     |
| <400> 125<br>gctcatcatg cttcacgggg ga   | ggctgtgc gggaagaatg | ctcccacaca gnataaagaa | 60  |
| tgctcccgca caggatagag aa  | tgcccccg cacagcatag | agaagccccc gcacagcata | 120 |
| gagaatgccc ccncacagca tag   | gagaagee eeegeacage | atagagaatg ctcttcacct | 180 |
| ctgggttttt aaccagccaa ac  | taaaatca cagaggscma | cacatcattt aagatagaaa | 240 |
| tttctgtatc ttttaattty tt  | tcmaagta gttttactta | ttttcagatt ctatttcttt | 300 |
| actagaatta agggataaaa ta  | acaatgtg tgcataatga | accctatgaa acmaacmmaa | 360 |
| gctaggtttt tttcatagst ct  | tcttccag attgaatgaa | cgtctgttct aaaatttaac | 420 |
| cccccaggga aatattcagt ta  | actatgtt aaaaacccag | acttgtgatt gagttttgcc | 480 |
| tgaaaatgct ttcataatta tg  | tgtgaatg tgtgtc     |                       | 516 |

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|---------|---|-----|--|--|--|--|--|
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| <213>   | Homo sapiens  |     |  |  |  |  |  |
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|         | tgca ggtgctataa ggtgagcatg agacacagat ctttgctttc caccctgttc | 60  |  |  |  |  |  |
| 5       |   |     |  |  |  |  |  |
| ttcttat | tggt tgggtattct tgtcacagta acttaactga tctaggaaag aaaaaatgtt | 120 |  |  |  |  |  |
| t       |   | 121 |  |  |  |  |  |
| _       |   |     |  |  |  |  |  |
|         |   |     |  |  |  |  |  |
| <210>   | 127   |     |  |  |  |  |  |
| <211>   | 18  |     |  |  |  |  |  |
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| <213>   | Artificial Sequence   |     |  |  |  |  |  |
|         |   |     |  |  |  |  |  |
| <400>   | 127   |     |  |  |  |  |  |
| tggagad | ctgg aacacaac   | 18  |  |  |  |  |  |
|         | ·   |     |  |  |  |  |  |
|         |   |     |  |  |  |  |  |
| <210>   | 128   |     |  |  |  |  |  |
| <211>   | 21  |     |  |  |  |  |  |
|         | DNA   |     |  |  |  |  |  |
| <213>   | Artificial Sequence   |     |  |  |  |  |  |
| 400     |   |     |  |  |  |  |  |
| <400>   | 128   | 21  |  |  |  |  |  |
| grgrggg | ccag ggtagagaac t   | 21  |  |  |  |  |  |
|         |   |     |  |  |  |  |  |
| <210>   | 129   |     |  |  |  |  |  |
| <211>   | 19  |     |  |  |  |  |  |
|         | DNA   |     |  |  |  |  |  |
|         | Artificial sequence   |     |  |  |  |  |  |
| (213)   | Antilleral bequence   |     |  |  |  |  |  |
| <400>   | 129   |     |  |  |  |  |  |
|         | ggca ggcatatct  | 19  |  |  |  |  |  |
|         |   |     |  |  |  |  |  |
|         |   |     |  |  |  |  |  |
| <210>   | 130   |     |  |  |  |  |  |
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| <213>   | Artificial Sequence   |     |  |  |  |  |  |
|         |   |     |  |  |  |  |  |
| <400>   | 130   |     |  |  |  |  |  |
| tgaaato | tgaaatcaca gccaagatga g 21                                  |     |  |  |  |  |  |
|         |   |     |  |  |  |  |  |
|         |   |     |  |  |  |  |  |
| <210>   | 131   |     |  |  |  |  |  |

| <211> 19<br><212> DNA<br><213> Art      |         | Sea           | ience      |            |            |            |     |
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| acacatgaaa                              | gaaaga  | acct          | caagaggctt | tgttttctgt | gaaacagtat | ttctatacag | 240 |
| ttgctccaat                              | gacaga  | gtta          | cctgcaccgt | tgtcctactt | ccagaatgca | cagatgtctg | 300 |
| aggacaacca                              | cctgage | caat          | actgtacgta | gccagaatga | caatagagaa | cggcaggagc | 360 |
| acaacgacag                              | acggag  | cctt          | ggccaccctg | agccattatc | taatggacga | ccccagggta | 420 |
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| ctaccattaa                              | gtcagt  | cagc          | ttttataccc | ggaaggatgg | gcagctaatc | tataccccat | 600 |
| tcacagaaga                              | taccga  | gact          | gtgggccaga | gagccctgca | ctcaattctg | aatgctgcca | 660 |
| tcatgatcag                              | tgtcat  | tgtt          | gtcatgacta | tcctcctggt | ggttctgtat | aaatacaggt | 720 |
| actataacat                              | catccat | tacc          | taacttatta | tatcatctct | attattacta | ttottttt   | 780 |

| cattcattta | cttgggggaa | gtgtttaaaa | cctataacgt | tgctgtggac | tacattactg | 840  |
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| cacttcgact | ccagcaggca | tatctcatta | tgattagtgc | cctcatggcc | ctggtgttta | 960  |
| tcaagtacct | ccctgaatgg | actgcgtggc | tcatcttggc | tgtgatttca | gtatatgatt | 1020 |
| tagtggctgt | tttgtgtccg | aaaggtccac | ttcgtatgct | ggttgaaaca | gctcaggaga | 1080 |
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| tggcagaagg | agacccggaa | gctcaaagga | gagtatccaa | aaattccaag | tataatgcag | 1200 |
| aaagcacaga | aagggagtca | caagacactg | ttgcagagaa | tgatgatggc | gggttcagtg | 1260 |
| aggaatggga | agcccagagg | gacagtcatc | tagggcctca | tcgctctaca | cctgagtcac | 1320 |
| gagctgctgt | ccaggaactt | tccagcagta | tectegetgg | tgaagaccca | gaggaaaggg | 1380 |
| gagtaaaact | tggattggga | gatttcattt | tctacagtgt | tctggttggt | aaagcctcag | 1440 |
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| tgtgccttac | attattactc | cttgccattt | tcaagaaagc | attgccagct | cttccaatct | 1560 |
| ccatcacctt | tgggcttgtt | ttctactttg | ccacagatta | tcttgtacag | ccttttatgg | 1620 |
| accaattagc | attccatcaa | ttttatatct | agcatatttg | cggttagaat | cccatggatg | 1680 |
| tttcttcttt | gactataacc | aaatctgggg | aggacaaagg | tgattttcct | gtgtccacat | 1740 |
| ctaacaaagt | caagattccc | ggctggactt | ttgcagcttc | cttccaagtc | ttcctgacca | 1800 |
| ccttgcacta | ttggactttg | gaaggaggtg | cctatagaaa | acgattttga | acatacttca | 1860 |
| tcgcagtgga | ctgtgtccct | cggtgcagaa | actaccagat | ttgagggacg | aggtcaagga | 1920 |
| gatatgatag | gcccggaagt | tgctgtgccc | catcagcagc | ttgacgcgtg | gtcacaggac | 1980 |
| gatttcactg | acactgcgaa | ctctcaggac | taccggttac | caagaggtta | ggtgaagtgg | 2040 |
| tttaaaccaa | acggaactct | tcatcttaaa | ctacacgttg | aaaatcaacc | caataattct | 2100 |
| gtattaactg | aattctgaac | ttttcaggag | gtactgtgag | gaagagcagg | caccagcagc | 2160 |
| agaatgggga | atggagaggt | gggcaggggt | tccagcttcc | ctttgatttt | ttgctgcaga | 2220 |
| ctcatccttt | ttaaatgaga | cttgttttcc | _          | agtcaagtca | aatatgtaga | 2280 |
|            |            |            | Page 87    |            |            |      |

| ttgcctttgg | caattcttct | tctcaagcac | tgacactcat | taccgtctgt | gattgccatt | 2340 |
|------------|------------|------------|------------|------------|------------|------|
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| ccaaattcag | taaattttgg | aaacagtaca | gctatttctc | atcaattctc | tatcatgttg | 2460 |
| aagtcaaatt | tggattttcc | accaaattct | gaatttgtag | acatacttgt | acgctcactt | 2520 |
| gcccccagat | gcctcctctg | tcctcattct | tctctcccac | acaagcagtc | tttttctaca | 2580 |
| gccagtaagg | cagctctgtc | rtggtagcag | atggtcccat | tattctaggg | tcttactctt | 2640 |
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| ccacagcaaa | tgagatgtat | gcccaaagcg | gtagaattaa | agaagagtaa | aatggctgtt | 2760 |
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<213> Homo sapiens

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35 40 45

Pro Leu Ser Asn Gly Arg Pro Gln Gly Asn Ser Arg Gln Val Val Glu 50 55 60

Gln Asp Glu Glu Asp Glu Glu Leu Thr Leu Lys Tyr Gly Ala Lys 75 75 80

His Val Ile Met Leu Phe Val Pro Val Thr Leu Cys Met Val Val Val 85 90 95

Val Ala Thr Ile Lys Ser Val Ser Phe Tyr Thr Arg Lys Asp Gly Gln
100 105 110

Leu Ile Tyr Thr Pro Phe Thr Glu Asp Thr Glu Thr Val Gly Gln Arg Page 88 Ala Leu His Ser Ile Leu Asn Ala Ala Ile Met Ile Ser Val Ile Val Val Met Thr Ile Leu Leu Val Val Leu Tyr Lys Tyr Arg Cys Tyr Lys Val Ile His Ala Trp Leu Ile Ile Ser Ser Leu Leu Leu Phe Phe Phe Ser Phe Ile Tyr Leu Gly Glu Val Phe Lys Thr Tyr Asn Val Ala Val Asp Tyr Ile Thr Val Ala Leu Leu Ile Trp Asn Phe Gly Val Val Gly Met Ile Ser Ile His Trp Lys Gly Pro Leu Arg Leu Gln Gln Ala Tyr Leu Ile Met Ile Ser Ala Leu Met Ala Leu Val Phe Ile Lys Tyr Leu Pro Glu Trp Thr Ala Trp Leu Ile Leu Ala Val Ile Ser Val Tyr Asp Leu Val Ala Val Leu Cys Pro Lys Gly Pro Leu Arg Met Leu Val Glu Thr Ala Gln Glu Arg Asn Glu Thr Leu Phe Pro Ala Leu Ile Tyr Ser Ser Thr Met Val Trp Leu Val Asn Met Ala Glu Gly Asp Pro Glu Ala Gln Arg Arg Val Ser Lys Asn Ser Lys Tyr Asn Ala Glu Ser Thr Glu Arg Glu Ser Gln Asp Thr Val Ala Glu Asn Asp Asp Gly Gly Phe Ser Glu Glu Trp Glu Ala Gln Arg Asp Ser His Leu Gly Pro His Arg Ser Thr Pro Glu Ser Arg Ala Ala Val Gln Glu Leu Ser Ser Ser Ile Leu Ala Gly Glu Asp Pro Glu Glu Arq Gly Val Lys Leu Gly Leu Gly 

| Asp Phe IIe i<br>385                                 | Phe Tyr Ser Va<br>390                    | <del>-</del>         | Lys Ala Ser Ala<br>395 | Thr Ala<br>400 |  |  |  |  |  |
|--|--|----------------------|------------------------|----------------|--|--|--|--|--|
| Ser Gly Asp 7  | Trp Asn Thr Th<br>405                    | r Ile Ala Cys<br>410 | Phe Val Ala Ile        | Leu Ile<br>415 |  |  |  |  |  |
|  | Leu Thr Leu Le<br>420                    | Leu Leu Ala<br>425   | Ile Phe Lys Lys<br>430 |                |  |  |  |  |  |
| Pro Ala Leu E<br>435                                 | Pro Ile Ser Il                           | e Thr Phe Gly<br>440 | Leu Val Phe Tyr<br>445 | Phe Ala        |  |  |  |  |  |
| Thr Asp Tyr I<br>450                                 | Leu Val Gln Pro<br>45                    | -                    | Gln Leu Ala Phe<br>460 | His Gln        |  |  |  |  |  |
| Phe Tyr Ile<br>465                                   |  |                      |                        |                |  |  |  |  |  |
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|  |  |                      | ttg agaaggtatt         |                |  |  |  |  |  |
|  |  |                      | ttc cagaatgccc         |                |  |  |  |  |  |
| ggacagccac to  | ccagcagcg ccat                           | ccggag ccagaat       | gac agccaagaac         | ggcagcagca 300 |  |  |  |  |  |
| gcatgacagg ca  | agagacttg acaa                           | ccctga gccaata       | tct aatgggcggc         | cccagagtaa 360 |  |  |  |  |  |
| ctcaagacag gt  | tggtggaac aaga                           | gagga ggaagac        | gaa gagctgacat         | tgaaatatgg 420 |  |  |  |  |  |
| agccaagcat gt  | tcatcatgc tctt                           | gtece egtgace        | ctc tgcatggtcg         | tcgtcgtggc 480 |  |  |  |  |  |
| caccatcaaa to  | cagtcagct tcta                           | cacccg gaaggac       | ggt cagctaatct         | acaccccatt 540 |  |  |  |  |  |

600 cacagaagac actgagactg taqqccaaag agccctgcac tcgatcctga atgcggccat catgatcagt gtcattgtca ttatgaccat cctcctggtg gtcctgtata aatacaggtg 660 720 ctacaaggtc atccacgcct ggcttattat ttcatctctg ttgttgctgt tcttttttc 780 gttcatttac ttaggggaag tatttaagac ctacaatgtc gccgtggact acgttacagt 840 agcactccta atctggaatt ttggtgtggt cgggatgatt gccatccact ggaaaggccc 900 ccttcgactg cagcaggcgt atctcattat gatcagtgcc ctcatggccc tggtatttat 960 caagtacete eeegaatgga eegeatgget eatettgget gtgattteag tatatgattt 1020 ggtggctgtt ttatgtccca aaggcccact tcgtatgctg gttgaaacag ctcaggaaag 1080 aaatgagact ctctttccag ctcttatcta ttcctcaaca atggtgtggt tggtgaatat 1140 ggctgaagga gacccagaag cccaaaggag ggtacccaag aaccccaagt ataacacaca 1200 aagagcggag agagagacac aggacagtgg ttctgggaac gatgatggtg gcttcagtga ggagtgggag gcccaaagag acagtcacct ggggcctcat cgctccactc ccgagtcaag 1260 1320 agctgctgtc caggaacttt ctgggagcat tctaacgagt gaagacccgg aggaaagagg 1380 agtaaaactt ggactgggag atttcatttt ctacagtgtt ctggttggta aggcctcagc aaccgccagt ggagactgga acacaaccat agcctgcttt gtagccatac tgatcggcct 1440 1500 gtgccttaca ttactcctgc tcgccatttt caagaaagcg ttgccagccc tccccatctc 1560 catcaccttc gggctcgtgt tctacttcgc cacggattac cttgtgcagc ccttcatgga 1620 ccaacttgca ttccatcagt tttatatcta gcctttctgc agttagaaca tggatgtttc 1680 ttctttgatt atcaaaaaca caaaaacaga gagcaagccc gaggaggaga ctggtgactt 1740 tcctgtgtcc tcagctaaca aaggcaggac tccagctgga cttctgcagc ttccttccga 1800 gtctccctag ccacccgcac tactggactg tggaaggaag cgtctacaga ggaacggttt 1860 ccaacatcca tcgctgcagc agacggtgtc cctcagtgac ttgagagaca aggacaagga 1920 aatgtgctgg gccaaggagc tgccgtgctc tgctagcttt gaccgtgggc atggagattt 1964 acccgcactg tgaactctct aaggtaaaca aagtgaggtg aacc

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Gln Glu Arg Gln Gln His Asp Arg Gln Arg Leu Asp Asn Pro Glu
Pro Ile Ser Asn Gly Arg Pro Gln Ser Asn Ser Arg Gln Val Val Glu
    50
                                             60
Gln Asp Glu Glu Asp Glu Glu Leu Thr Leu Lys Tyr Gly Ala Lys
65
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                                         75
                                                             80
His Val Ile Met Leu Phe Val Pro Val Thr Leu Cys Met Val Val
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                                     90
                                                         95
Val Ala Thr Ile Lys Ser Val Ser Phe Tyr Thr Arg Lys Asp Gly Gln
            100
                                105
                                                     110
Leu Ile Tyr Thr Pro Phe Thr Glu Asp Thr Glu Thr Val Gly Gln Arg
        115
                            120
Ala Leu His Ser Ile Leu Asn Ala Ala Ile Met Ile Ser Val Ile Val
                        135
                                             140
Ile Met Thr Ile Leu Leu Val Val Leu Tyr Lys Tyr Arg Cys Tyr Lys
145
                    150
                                         155
                                                             160
Val Ile His Ala Trp Leu Ile Ile Ser Ser Leu Leu Leu Phe Phe
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                                    170
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136

467

Page 92

Phe Tyr Ile 465

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<211> 2285

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<213> Mus musculus

<220>

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| tggactaccc | caccctcttg | ctgactgtct | ggaacttcgg | ggcagtgggc | atggtgtgca | 1020 |
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| aaactgccca | ggagagaaat | gagcccatat | tecetgeeet | gatatactca | tctgccatgg | 1260 |
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| acgacccgga | gatggaagaa | gactcctatg | acagttttgg | ggagccttca | taccccgaag | 1380 |
| tctttgagcc | tcccttgact | ggctacccag | gggaggagct | ggaggaagag | gaggaaaggg | 1440 |
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| aagacttttc | tttccttaaa | aaataaagta | cgtgtttact | tggtgaggag | gaggcagaac | 1860 |
| cagctctttg | gtgccagctg | tttcatcacc | agactttggc | tcccgctttg | gggagcgcct | 1920 |
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| gtggggagaa | gagcatccgg | catgagggct | gagatgccca | aagagtgtgc | tcgggagtgg | 2040 |
| cccctggcac | ctgggtgctc | tggctggaga | ggaaaagcca | gttccctacg | aggagtgttc | 2100 |
| ccaatgcttt | gtccatgatg | tccttgttat | tttattnccy | ttanaaactg | antcctnttn | 2160 |
| ttnttdcggc | agtcacmctn | ctgggragtg | gcttaatagt | aanatcaata | aanagntgag | 2220 |
| tcctnttaga | aaaaaaaaa  | aaaaaaaaa  | aaaaaaaaa  | aaaaaaaaa  | aaaaaaaaa  | 2280 |
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<212> PRT

<213> Homo sapiens

<400> 138

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35 40 45

Ser Gln Glu Asn Glu Glu Asp Gly Glu Glu Asp Pro Asp Arg Tyr Val 50 55 60

Cys Ser Gly Val Pro Gly Arg Pro Pro Gly Leu Glu Glu Leu Thr 70 75 80

Leu Lys Tyr Gly Ala Lys His Val Ile Met Leu Phe Val Pro Val Thr
85 90 95

Leu Cys Met Ile Val Val Val Ala Thr Ile Lys Ser Val Arg Phe Tyr 100 105 110

Thr Glu Lys Asn Gly Gln Leu Ile Tyr Thr Pro Phe Thr Glu Asp Thr
115 120 125

Pro Ser Val Gly Gln Arg Leu Leu Asn Ser Val Leu Asn Thr Leu Ile 130 · 135 140

Met Ile Ser Val Ile Val Val Met Thr Ile Phe Leu Val Val Leu Tyr 145 150 155 160

Lys Tyr Arg Cys Tyr Lys Phe Ile His Gly Trp Leu Ile Met Ser Ser 165 170 175

Leu Met Leu Phe Leu Phe Thr Tyr Ile Tyr Leu Gly Glu Val Leu 180 185 190

Lys Thr Tyr Asn Val Ala Met Asp Tyr Pro Thr Leu Leu Leu Thr Val 195 200 205

Trp Asn Phe Gly Ala Val Gly Met Val Cys Ile His Trp Lys Gly Pro 210 215 220

Leu Val Leu Gln Gln Ala Tyr Leu Ile Met Ile Ser Ala Leu Met Ala 225 230 235 240

Leu Val Phe Ile Lys Tyr Leu Pro Glu Trp Ser Ala Trp Val Ile Leu 245 Gly Ala Ile Ser Val Tyr Asp Leu Val Ala Val Leu Cys Pro Lys Gly 260 265 270 Pro Leu Arg Met Leu Val Glu Thr Ala Gln Glu Arg Asn Glu Pro Ile 280 285 Phe Pro Ala Leu Ile Tyr Ser Ser Ala Met Val Trp Thr Val Gly Met 295 300 Ala Lys Leu Asp Pro Ser Ser Gln Gly Ala Leu Gln Leu Pro Tyr Asp 310 315 Pro Glu Met Glu Glu Asp Ser Tyr Asp Ser Phe Gly Glu Pro Ser Tyr Pro Glu Val Phe Glu Pro Pro Leu Thr Gly Tyr Pro Gly Glu Glu Leu 340 345 350 Glu Glu Glu Glu Glu Arg Gly Val Lys Leu Gly Leu Gly Asp Phe Ile 355 360 365 Phe Tyr Ser Val Leu Val Gly Lys Ala Ala Ala Thr Gly Ser Gly Asp 370 375 Trp Asn Thr Thr Leu Ala Cys Phe Val Ala Ile Leu Ile Gly Leu Cys 385 390 395 400 Leu Thr Leu Leu Leu Ala Val Phe Lys Lys Ala Leu Pro Ala Leu 405 410 Pro Ile Ser Ile Thr Phe Gly Leu Ile Phe Tyr Phe Ser Thr Asp Asn 425 Leu Val Arg Pro Phe Met Asp Thr Leu Ala Ser His Gln Leu Tyr Ile 435 440 445 <210> 139 <211> 31 <212> DNA <213> Artificial Sequence <400> 139 ggtaccgcca ccatgacaga ggtacctgca c

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| -       |                                |     |
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|         | •                              |     |
| < 400.> | 141                            |     |
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|         | aud dddaggddu dggddgdd ddu     | 7,7 |
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| gaccaga |                                | 17  |
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| ~213/   | Arctificial bequence           |     |
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| Jaccage |                                |     |
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|         | 19                             |     |
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|         | Artificial Comence             |     |

|                           | 145<br>cagc tctcattta                   | 19 |
|---------------------------|---|----|
| <211><br><212>            | 146<br>19<br>DNA<br>Artificial Sequence |    |
|                           | 146<br>cagt tctcattta                   | 19 |
| <211><br><212>            |   |    |
| <400>                     | Artificial sequence  147 gttc tggttggta | 19 |
| <210><211><211><212><213> | 19                                      |    |
| <400>                     | 148<br>gttc tggttggta                   | 19 |
| <212>                     | 149<br>19<br>DNA<br>Artificial Sequence |    |
| <400><br>tacagto          | 149<br>gttg tggttggta                   | 19 |
| <210><211><211><212><213> | 150<br>1092<br>DNA<br>Homo sapiens      |    |
| <220><br><221>            | misc_feature                            |    |

## <223> where n may be either a or g or c or t/u, unknown or other

| <400> 150<br>gtctagataa | gncaacattc      | aggggtagaa | qqqqactqtt | tatttttcc  | tttagtctct | 60   |
|-------------------------|-----------------|------------|------------|------------|------------|------|
|                         |                 | ttcccaggaa |            |            |            | 120  |
| gttcatacca              | agttacaacc      | ccacaacctť | agagcttttg | ttaggaagag | gcttggtggg | 180  |
| attaccgtgc              | ttggcttggc      | ttggtcagga | ttcaccacca | gagtcatgtg | ggagggggtg | 240  |
| ggaacccaaa              | caattcagga      | ttctgccctc | aggaaataaa | ggagaaaata | gctgttggat | 300  |
| aaactaccag              | caggcactgc      | tacagcccat | gctttgtggt | ttaagggcca | gctagttaca | 360  |
| atgacagcta              | gttactgttt      | ccatgtaatt | ttcttaaagg | tattaaattt | ttctaaatat | 420  |
| tagagctgta              | acttccactt      | tctcttgaag | gcacagwaag | ggagtcacaa | gacactgttg | 480  |
| cagagaatga              | tgatggcggg      | ttcagtgagg | aatgggaasc | ccagrgggac | antcatctag | 540  |
| ggcctcatcg              | ctctacacct      | gagtcacgag | ctkctntcca | ggractttcc | ancagtatcc | 600  |
| tcgctggtga              | agacccagag      | gaaagnatgt | tcanttctcc | atntttcaaa | gtcatggatt | 660  |
| cctttaggta              | gctacattat      | caaccttttt | gagaataaaa | tgaattgaga | gtgttacagt | 720  |
| ctaattctat              | atcacatgta      | acttttattt | ggatatatca | gtaatagtgc | tttttynttt | 780  |
| tttttttt                | tttttttt        | ttttnggnga | nagagtctcg | ctctgtcgcc | aggttggagt | 840  |
| gcaatggtgc              | gatcttggct      | cactgaaagc | tccaccnccc | gggttcaagt | gattctcctg | 900  |
| cctcagccnc              | ccaagtagnt      | gggactacag | gggtgcgcca | ccacgcctgg | gataattttg | 960  |
| ggntttttag              | tagagatggc      | gtttcaccan | cttggngcag | gctggtcttg | gaactcctga | 1020 |
| natcatgatc              | tgcctgcctt      | agcctcccca | aagtgctggg | attncagggg | tgagccactg | 1080 |
| ttcctgggcc              | tc <sub>.</sub> |            |            |            |            | 1092 |

<sup>&</sup>lt;210> 151

<220>

<sup>&</sup>lt;211> 1003

<sup>&</sup>lt;212> DNA

<sup>&</sup>lt;213> Homo sapiens

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taaggatttc ttagkacaag tgctgggtat aaactatana ttcratagat qncqattatt
                                                                       180
acttaytatt gttattgata aataacagca gcatctacag ttaagactcc agagtcagtc
                                                                       240
acatagaatc tggnactcct attgtagnaa accccnmmag aaagaaaaca cagctgaagc
                                                                       300
ctaattttgt atatcattta ctgacttctc tcattcattg tggggttgag tagggcagtg
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tcctttttag ggggagtaaa acttggattg ggagatttca ttttctacag tgttctggtt
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                                                                      540
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gcctcaagcc tagcagcaca gatatgtagg aaattagctc tgtaaggttg gtcttacagg
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gataaacaga teetteetta gteeetggae ttaateactg agagtttggg tggtggtttt
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<211>
       1726
<212>
       DNA
<213>
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<220>
<221>
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<222>
       (1)...(1726)
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<221> misc feature

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| cctgtcatcc | ccctcctctt | ggtgttatat | ataaagtntt | ggtgccgcaa | aagaagtagc | 1440 |
|------------|------------|------------|------------|------------|------------|------|
| actcgaatat | aaaattttcc | ttttaattct | cagcaaggna | agttacttct | atatagaagg | 1500 |
| gtgcacccnt | acagatggaa | caatggcaag | cgcacatttg | ggacaaggga | ggggaaaggg | 1560 |
| ttcttatccc | tgacacacgt | ggtcccngct | gntgtgtnct | ncccccactg | antagggtta | 1620 |
| gactggacag | gcttaaacta | attccaattg | gntaatttaa | agagaatnat | ggggtgaatg | 1680 |
| ctttgggagg | agtcaaggaa | gagnaggtag | naggtaactt | gaatga     |            | 1726 |

<211> 1883

<212> DNA

<213> Homo sapiens

<220>

<221> misc feature

<222> (1)..(1883)

<223> where n may be either a or g or c or t/u, unknown or other

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| gagaggcact | aattataagc | catattacct | ttcttctgac | aaccacttgt | cagcccncgt | 780  |
|------------|------------|------------|------------|------------|------------|------|
| ggtttctgtg | gcagaatctg | gttcyatamc | aagttcctaa | taanctgtas | ccnaaaaaat | 840  |
| ttgatgaggt | attataatta | tttcaatata | aagcacccac | tagatggagc | cagtgtctgc | 900  |
| ttcacatgtt | aagtccttct | ttccatatgt | tagacatttt | ctttgaagca | attttagagt | 960  |
| gtagctgttt | ttctcaggtt | aaaaattctt | agctaggatt | ggtgagttgg | ggaaaagtga | 1020 |
| cttataagat | ncgaattgaa | ttaagaaaaa | gaaaattctg | tgttggaggt | ggtaatgtgg | 1080 |
| ktggtgatct | ycattaacac | tganctaggg | ctttkgkgtt | tgktttattg | tagaatctat | 1140 |
| accccattca | nagaagatac | cgagactgtg | ggccagagag | ccctgcactc | aattctgaat | 1200 |
| gctgccatca | tgatcagngt | cattgtwgtc | atgactannc | tcctggtggt | tcwgtataaa | 1260 |
| tacaggtgct | ataaggtgag | catgagacac | agatctttgn | tttccaccct | gttcttctta | 1320 |
| tggttgggta | ttcttgtcac | agtaacttaa | ctgatctagg | aaagaaaaaa | tgttttgtct | 1380 |
| tctagagata | agttaatttt | tagttttctt | cctcctcact | gtggaacatt | caaaaaatac | 1440 |
| aaaaaggaag | ccaggtgcat | gtgtaatgcc | aggctcagag | gctgaggcag | gaggatcgct | 1500 |
| tgggcccagg | agttcacaag | cagcttgggc | aacgtagcaa | gaccctgcct | ctattaaaga | 1560 |
| aaacaaaaaa | caaatattgg | aagtatttta | tatgcatgga | atctatatgt | catgaaaaaa | 1620 |
| ttagtgtaaa | atatatatat | tatgattagn | tatcaagatt | tagtgataat | ttatgttatt | 1680 |
| ttgggatttc | aatgcctttt | taggccattg | tctcaamaaa | taaaagcaga | aaacaaaaaa | 1740 |
| agttgtaact | gaaaaataaa | catttccata | taatagcaca | atctaagtgg | gtttttgntt | 1800 |
| gtttgtttgn | ttgttgaagc | agggccttgc | cctnycaccc | aggntggagt | gaagtgcagt | 1860 |
| ggcacgattt | tggctcactg | cag        |            |            |            | 1883 |

<sup>&</sup>lt;210> 154

<sup>&</sup>lt;211> 1990

<sup>&</sup>lt;212> DNA

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;220>

<sup>&</sup>lt;221> misc\_feature

<222> (1)..(1990) <223> where n may be either a or g or c or t/u, unknown or other

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| gtctcgaggc atgcatgtcc   | agtgactctt   | gtgtttgctg   | ctgcttccct   | ctcagattct   | 1380                     |
|---|--|--|--|--|--------------------------|
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| gtgagagaat tgaggtgact   | tttccataat   | tcaggtgaga   | tgtgattaga   | gtycggatcc   | 1500                     |
| tncggtggtg gcagaggctt   | accaagaaac   | actaacggga   | catgggaacc   | aattgaggat   | 1560                     |
| ccagggaata aagtgtgaag   | ttgactagga   | ggttttcagt   | ttaagaacat   | ggcagagaca   | 1620                     |
| ttctcagaaa taaggaagtt   | aggaagaaag   | acctggttta   | gagaggaggg   | cgaggaagtg   | 1680                     |
| gtttggaagt gtcactttgg   | aagtgccagc   | aggtgaaaat   | gccctgtgaa   | caggactgga   | 1740                     |
| gctgaaaaca ggaatcaatt   | ccatagattt   | ccagttgatg   | ttggagcagt   | ggagaagtct   | 1800                     |
| aanctaagga aggggaagag   | gaggccaagc   | caaacactta   | ggaacacttn   | cnacgagggg   | 1860                     |
| gtggaagaag agcaaggagc   | cagctgagga   | gaatgagtgt   | ggttggagaa   | ccaccacagc   | 1920                     |
| ncagggtcgc caganctgag   | gaaggggagg   | gaagcttatc   | gagkamsgwc   | racmkcgagt   | 1980                     |
| tggcagggat  |  |  |  |  | 1990                     |
|   |  |  |  |  |                          |
| <210> 155<br><211> 736<br><212> DNA<br><213> Homo sapiens   |  |  |  |  |                          |
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| <211> 736 <212> DNA <213> Homo sapiens  <400> 155 gtctttccca tcttctccac gaaagcattg tcagctcttc agattatctt gtacagcctt tatttgcggt tagaatccca                       | caatctccat ttatggacca tggatgtttc cacatctaac            | cacctttggg attagcattc ttctttgact aaatcaagat            | cttgttttct<br>catcaatttt<br>ataacaaaat<br>ccccggctgg   | actttgccac atatctagca ctggggagga acttttggag            | 120<br>180<br>240        |
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                                                                      960
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<213>
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<220> <221>

misc feature

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| gcctggctta | ttatatcatc | tctattgttg | ctgctctttt | ttacattcat | ttacttgggg | 480 |
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| catttaaagc | catgtacttt | gntgatgaat | tactctgaag | ttttaattgt | ntccacatat | 600 |
| aggtcatact | tggtatataa | aagactagnc | agtattacta | attgagacat | tcttctgtng | 660 |
| ctcctngctt | ataataagta | gaactgaaag | naacttaaga | ctacagttaa | ttctaagcct | 720 |
| ttggggaagg | attatatagc | cttctagtag | gaagtcttgt | gcnatcagaa | tgtttntaaa | 780 |
| gaaagggtnt | caaggaatng | tataaanacc | aaaaataatt | gat        |            | 823 |

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<213> Homo sapiens

<220>

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atcccataac tcttcagtaa atcattaatt agctatagta actttttcat ttgaagattt
                                                                    720
cggctgggca tggtagctca tgcctgtaat cttagcactt tgggaggctg aggcgggcag
                                                                    780
atcacctaag cccagagttc aagaccagcc tgggcaacat ggcaaaacct cgtatctaca
                                                                     840
gaaaatacaa aaattagccg ggcatggtgg tgcacacctg tagttccagc tacttaggag
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gctgaggtgg gaggatcgat tgatcccagg aggtcaagnc tgcag
                                                                     945
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Tyr Pro Thr Phe
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Ser Thr Pro Glu
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18

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                5
                                    10
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Lys Asp Gly Gln Leu Ile Tyr Thr Pro Phe Thr Glu Asp Thr Glu
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1
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gccctagtgt tcatcaagta
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|                          | aaga taccgagact  | 20  |  |
| J                        |  | _ • |  |
| 0.1.0                    | 100  |     |  |
|                          | 177  |     |  |
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| cccaaco                  | cata agaagaacag  | 20  |  |
|                          |  |     |  |
| .010.                    | 170  |     |  |
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|                          |  |     |  |
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